



EXPLORING THE QUALITY OF E-GOVERNMENT SERVICE FROM CITIZENS' PERSPECTIVES

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DECLARATION

I, Wafa'a Dodeen, certify that except where the respective acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program; and any editorial work, paid or unpaid, carried out by a third party is acknowledged. Ethics procedures and guidelines have been followed. I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

Signed: Wafa'a Dodeen

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LIST OF ABBREVIATIONS

COBRA	cost; benefit; risk and opportunity
CSI	Customer Satisfaction Index
e-government	Electronic government
E-SQ	Electronic Service Quality
ECT	Expectation Confirmation Theory
Emis	Education Management Information System
ET	Expectation Theory
ICT	Information and communication technology
INT	Interview
IS	Information system
IT	Information technology
mhealth	Mobile Health
PU	Perceived Usefulness
SERVQUAL	Service Quality Model
SQ	Service Quality
TAM	Technology Accept Model
UTAUT	Unified theory of acceptance and use of technology

ABSTRACT

Electronic government – e-government – has become a major area of research for the field of information systems (IS) and a leading area of development for governments worldwide. This study defines e-government as the use of ICT for using and delivering government services, which considers the use of the service (rather than just the technology) and accounts for government and citizen aspects. Although there is a rich body of evidence that demonstrates the benefits of e-government for citizens, businesses, and governments (Alshomrani and Qamar 2013; Alenezi, Tarhini, and Sharma 2015; Ashaye and Irani 2014), citizens and governments continue to face challenges around the increased greater use of e-government (Alshehri and Drew 2010; Chen and Hsieh 2016; Nurdin, Stockdale, and Scheepers 2015). Most notably, these challenges differ between developing and developed countries (Choi et al. 2016; Sharma 2012; Srivastava and Panigrahi 2016). This research explores the quality of e-government services from the perspective of Jordanian citizens (Jordan is a developing country in the Middle East). More specifically, it aims to: examine and describe the experience of e-government service quality; analyse how expectations of e-government service quality is formed; and explain the impact of e-government services quality on citizen' trust and continuous use of e-government services.

The research is motivated by three goals. First, research must be more specific when it comes to the quality of e-government service, suggesting that its conceptualisation and measurement should be based on users' perceptions and be context specific. Thus, this study investigates e-government service quality from Jordanian citizens' perspectives. Jordan is one of the leading countries in the region regarding the availability of national information technology (IT) infrastructure for online services. Also, the population's motivation and ability to conduct online transactions are amongst the highest regionally (Alawneh and Hattab 2008). However, there are still issues around trust and the quality of e-government services (Abu-Shanab and Al-Azzam 2012). Second, there is a need to understand citizen expectation about e-service quality using qualitative research in order to provide more in-depth insights and go deeper and understand reasons and mechanisms leading to satisfaction and for enabling trust (or not) in e-government services. Third, one notable area that is missing in the existing e-government body of knowledge is how citizens form their expectations of e-government service quality and the association between perceptions of e-service quality and satisfaction and the decision to continually use e-government services. These motivations led to three research questions which are addressed in the context of Jordan:

(a) What is the citizen's perspective about the quality of e-government services?

(b) How are citizens' expectations of quality e-government service formed?

(c) How does quality of e-government services impact on citizens' trust of e-government services?

To address these research questions, conceptually, the study draws ideas from e-government services literature, expectation and spillover effects and trust theory. Empirically, this study undertakes a qualitative study, relying on interviews with users of the e-government service in Jordan. The data collection involved 20 interviews undertaken with e-government service users in Jordan from different geographical locations. To help understand the types and functions of e-government services, supplementary secondary data was obtained from government websites used by participants.

The study findings illuminate the quality of e-government services from the participant's viewpoint. In particular, the findings point out areas where the quality of e-government service needs to improve. There are significant concerns and difficulties of use e-government which can limit the use of e-government services and give the participant a low perspective on the quality of service. Moreover, the findings provide a brief discussion on the quality of e-government service from the user's perspective, to help in understanding the factors affecting the citizen's perspective in measuring the quality of e-government service success, through comparing the e-government service with other online services such as social media e-shopping and e-banking service. The study also identifies issue around the quality of e-government service based on the citizen's trust. The study provides suggestions to improve the quality of e-government service and trust based on the participant's experience with e-government and other online services.

CHAPTER 1 INTRODUCTION

1.1 Overview

This thesis studies the known problem of e-government service adoption, which is affected by several factors like digital literacy, service availability and performance, security and trust etc. (some references and analytical works should be mentioned). To do so this study explores the role of service quality for e-government adoption, in terms of meeting the end-user expectations and satisfaction, which is a known failure source. It also explores the related themes of how the expectations are formed and the role of trust.

An objective of electronic government – e-government –services is not only to provide information and service but also to encourage the frequent use of the e-government services by citizens, who are the primary stakeholders of government activities. Thus, understanding factors affecting citizens' adoption, satisfaction (Anthopoulos et al. 2016) and perspectives on the quality of e-government service success is necessary (Wang and Liao 2008). As argued by many scholars, “the quality e-service is the key element for success or failure of an organisation” (Lee and Lin 2005 p.43), and it is significant for the long-term success of an e-government service (Zeithaml, Parasuraman and Malhotra 2002). Therefore, there is a need to understand citizens' expectations of quality e-government service and how their expectation are formed based on their experience with e-government and other e-services such as online banking, e-commerce and social media applications. The prior research, for example (Venkatesh and Davis 2000), has shown that organisations fail to accrue the benefits of information technology (IT) investments if users are unwilling to use available systems (Venkatesh et al. 2003), which indicates that it is important to understand users' perspectives and how they make sense of the value of a system.

The literature clearly shows there is a significant need to improve the quality of e-government service based on citizens' perspectives; also there is a need to know the impact of other online services on citizens' perspectives of quality e-government services, and to know how the citizens evaluate the quality of e-government service (Alshawhi and Alalwany 2009; McKinney, Yoon, and Zahedi 2002; Roldán Bravo, Lloréns Montes, and Ruiz Moreno 2017). The literature also highlights the need for improving citizens' trust of e-government by providing high quality e-government services, because the citizen must trust e-government services to engage and adopt these services because e-citizens' adoption is the major objective of e-government (Welch, Hinnant, and Moon 2005; Teo, Srivastava, and Jiang 2008; Rehman, Kamal, and Esichaikul 2012; Khasawneh, Rabayah, and Abu-Shanab 2013; Alzahrani, Al-Karaghoul, and Weerakkody 2017).

This research argues that qualitative research is needed to go deeper and understand reasons and mechanisms for enabling trust (or not) in e-government services. And there is a requirement to understand the e-service quality dimension by means of qualitative research, and especially to understand the perspective of citizens about the quality of e-government services and how users formed their expectations. Theoretically this research draws on concepts from expectation and spillover to help guide research to explain how expectations are formed.

This chapter reviews the definitions and types of e-government services, to provide the reader with an overview of the significant themes of this thesis. Following this, it outlines the rationale for this study and outlines the three interrelated research questions.

1.2 Defining e-government

E-government is a multidimensional and complex concept and has been defined according to a range of different disciplines (for example information systems, politics) and by institutions (for example WORLD BANK), and has evolved over time. To begin, definitions across academic disciplines such as information systems (IS) (Bikfalvi, de la Rosa, and Keefe 2013) and political science (Guo 2010) are discussed, as well as definitions by public and business administration (WorldWideWebgroup 2015) (section 1.2.1). Then a discussion of e-government definitions follows, from narrow and broad definitions (section 1.2.2). This is then followed by a discussion on the classification of e-government definitions into two major directions: the supply side and the demand side (Fath-Allah et al. 2014).

1.2.1 Disciplinary and institutional framing of e-government

As underscored by Bertot et al., (2010) e-government is an area of research that crosses, and has been of interest to, different disciplines. These disciplines and areas of research are reflected in the definition of e-government (Abu-Shanab and Al-Azzam 2012). For instance, from an IS perspective, Bikfalvi et al. (2013) refer to e-government as “the employment of information communication technologies (ICT) in administration for delivering services with the ultimate aim of generating value for the society”.

In contrast, from a political science perspective, Guo (2010 p. 67) focused on the democratic institutions and processes and defined the e-government as “a way for governments to use the most innovative information and communication technologies, to provide citizens and businesses with more convenient access to government information and services and to provide greater opportunities to participate in democratic institutions and processes”.

Institutions, on the other hand, such as the WORLD BANK (2015) go beyond the focus on ICT and focus on e-government and its “ability to transform relations with citizens, businesses, and other arms of government”. The United Nations Organization describes it as “e-government refers to the use of information and communication technologies (ICT) – such as Wide Area Networks, the Internet, and mobile computing – by government agencies.” The Organisation for Economic Co-operation and Development (OECD) noted that “Electronic government refers to the use of information and communication technologies, and particularly the Internet, as a tool to achieve better government (Jaeger 2003). The further definition provided by (Gil-Garcia and Martinez-Moyano 2007) describes governments as increasingly using information and communication technologies (ICT) in their daily operations and businesses. E-government is further defined by former U.S. Vice President Al Gore, within his vision of linking the citizen to the various agencies of government for getting all kinds of government services in an automated and automatic way.

1.2.2 Narrow and broad framing of e-government

Early definitions of e-government focused on a narrow framing. For instance, these largely referred to providing access to government services via the Internet (Olszak and Ziemia 2002; Joia 2004) or as a tool for providing electronic information and services to citizens instead of the traditional channels (Alshehri, Drew, and Alfarraj 2012; Abu-Shanab 2014). It has been argued however, by Alshehri et al. (2012), that narrow ways of defining and conceptualizing e-government restrict understanding of the range of opportunities it offers. Abu-Shanab (2014) goes as far as to say that one of the reasons why many e-government initiatives fail is related to the narrow definition, which leads to a poor understanding of the e-government concept and the broader processes and functions.

For this reason, it is argued that a broad definition and understanding is required in order to be able to design and implement e-government successfully (Ndou 2004). For instance, Bhatnager (2004) suggested “ICT infrastructure is one of the main challenges for e-government; with most developing countries having low information technology (IT) literacy level in comparison to the developed countries. Thus, the evolving need for developing countries to meet up with technological advancement” (Bhatnagar 2004).

More recently, authors have unpacked e-government and understood it to be a more complex and multi-dimensional. For instance, (Anthopoulos et al. 2016) refer to it as “governments utilize Information and Communications Technologies (ICT) in order to become more effective and efficient in delivering information and services to the public.”

1.2.3 Supply (government) and demand (citizen) framings of e-government

In response to the argument for broader definitions, e-government has recently been classified in two major directions: the supply side and the demand side (Fath-Allah et al. 2014). The supply side is related to the actions taken by governments, whereas the demand side relates more to citizens’ acceptance and use (Lim et al. 2012). On the supply side for instance, some e-government researchers focus on raising the level of government performance so the e-government becomes a natural extension of the technological revolution that has accompanied the knowledge society. This literature added new concepts such as: transparency, accountability, and citizen participation in the evaluation of government performance (Mohammad, Almarabeh, and Ali 2009; Alzahrani, Al-Karaghoul, and Weerakkody 2017). (UNPAN 2010) noted that e-government refers to the use of ICT, and particularly the Internet, as a tool to achieve better government. On the demand side, e-government researchers focus on citizen satisfaction (Guo 2010; Bikfalvi, de la Rosa, and Keefe 2013; Bonsón, Royo, and Ratkai 2015). For instance, e-government can be expressed as the use of ICT by governments to enhance the quality of services and information provided to their citizens, and other stakeholders in efficient and cost-effective ways (Zaidi and Qteishat 2012).

Based on the foregoing discussion, this study defines e-government as the use of ICT for using and delivering government services, which considers the use of the service (rather than just the technology) and accounts for government and citizen aspects (Bonsón, Royo, and Ratkai 2015; Almarabeh and AbuAli 2010).

1.3 Types of e-government services

The type of e-government service in this research will be based on Osman et al.’s (2014) categorisations: informational, interactional and transactional. Informational e-government services provide information content and do not require any authentication in order to access the e-service. Interactive e-government services require authentication for filling-out forms, contacting agency officials, and/or requesting specific services and special appointments. This category includes e-government services such as: online inquiry for consumer complaints. Transactional e-government services require authentication and allow users to customise the content of the e-services, conduct financial transactions and pay online to receive e-government services including student education information; and my personal page (Osman et al. 2014).

1.4 Rationale for the study

The purpose of this research is to explore the user experience of e-government services. There are three significant motives for this research. Firstly, research must be more specific when it comes to service quality and users perception on quality. Secondly, there is a need to understand how citizens’

expectations about e-service quality are formed. Thirdly, there is a need to understand how these aspects relate to users' trust of e-government.

Quality is an important determinant for long-term success in e-service in different domains (Zeithaml, Parasuraman, and Malhotra 2002) and in e-government is drawn to e-service quality due to its importance to citizens through provide them their need and want online (Al-Nuaimi et al. 2013). The conceptualisation and measurement of e-government service should be based on citizens' perceptions (Aker 2010). To understand the initial issues relating to e-government service, the researcher must focus on the citizens' perspectives (Bhattacharya, Gulla, and Gupta 2012) and the quality of e-government services can be evaluated by user satisfaction and intention of future use (Bertot et al. 2008). These issues are important because quality of e-government services can lead understanding citizens' intention of future use.

There are still issues around trust and the quality of e-government services (Abu-Shanab and Al-Azzam 2012). Trust is a universal factor influencing the adoption of e-government (Abu-Shanab 2014) and positively affects the intention to use the services (Weerakkody 2017) because it important that citizens believe that their government will provide the practical managerial and technical resources that are required to implement and secure these online systems (Weerakkody 2017).

Most literature on e-government has focused on examining and describing the experience of quality e-government service and the relationship between quality of e-government services and trust in European countries or other developed countries (Carter and Bélanger 2005; Morgeson et al., 2011; Papadomichelaki and Mentzas 2012). However, Gregor et al., (2014) claim that 35% of e-government initiatives in developing countries failed (because e-government was not implemented or was implemented but immediately abandoned) and 50% were partial failures (because primary goals were not attained, or there were undesirable outcomes). Similarly, the WORLD BANK (2008) indicated that a high percentage of e-government efforts in developing countries have failed at an alarming rate. This supports the need to further study e-government in developing countries.

While there are a number of studies on the quality of e-government service focusing on developed nations, studies on developing countries are rare (Choi et al. 2016). Therefore, there is a need for strong understanding of the quality of e-government services from citizens' perspectives and its impact on citizens' trust of the e-government services.

1.5 Reasons for choosing a developing country (Jordan)

ICT are critical to bringing about improvements in developing and less developed countries (Venkatesh, Sykes, and Venkatraman 2014). ICT adoption in developing countries has shown that, in general, a majority of ICT implementation efforts fail, regardless of the type of application (Heeks 2002; Avgerou and Walsham 2001; Avgerou 2003). Despite the advancement in ICT adoption and use, the literature focusing on developing countries is relatively sparse (Walsham, Robey, and Sahay 2007). Irani (2010) argues there is a need to study e-government in developing country because most studies are in developed or European countries (Irani et al. 2010). The Jordanian e-government has yet to achieve its goals completely and global surveys have shown that Jordanian e-government rank has declined (UN, 2018). At the same time Jordanians do not lack skill and the technical competencies to use the internet and information technology applications (UN, 2018).

Different policies are required for technology development depending on whether a country is a developing or developed one. The characteristics, strengths, and weaknesses of the two categories of countries are very different (Srivastava and Panigrahi 2016) and for developing countries

environmental factors are significant (Cruz-Jesus et al. 2016). For example, Srivastava and Panigrahi (2016) and Cruz-Jesus et al. (2016) found that technology does not have a significant role in the development of e-government in developing countries. Rather, human capital and the business environment are the important factors that result in the development of e-government in developing countries. Similarly, organisational factors are not relevant in developing countries. Furthermore, the environmental context is significantly related to the development of e-government (Srivastava and Panigrahi 2016).

While Jordan is a developing country in the Middle East, based on WORLD BANK (world bank 2017), it is one of the regionally leading countries regarding national IT infrastructure available for online services. Also, the population's motivation and ability to conduct online transactions are regionally one of the highest (Alawneh and Hattab 2008). Al-Yaseen, Al-Soud, and Al-Jaghoub (2015) study showed that when Jordanian citizen were asked if they knew what e-government is in Jordan, 74.1% answered 'Yes'. When asked the same question in a different way within the survey, more than 75% of the participants did not actually know about e-government services or specific websites. Moreover, the study found that more than 85% of the participants had never logged into e-government website or had never obtained any information (Al-Yaseen, Al-Soud, and Al-Jaghoub 2015). This shows that there is significant need to understand citizens' perspectives about e-government service in Jordan to make citizens use and adopt e-government services.

E-government in Jordan initiatives seeks to achieve greater efficiency in government service provision by using new ICTs to reshape and facilitate the interactions with citizens (Al Hujran, Aloudat, and Altarawneh 2013). It aims to provide electronic services to improve government performance and the democratic life of its citizens (Bataineh et al. 2016). However, there are still issues around trust and the quality of e-government services in Jordan (Abu-Shanab and Al-Azzam 2012).

As noted earlier, the gate to e-government adoption in Jordan is trust (Abu-Shanab and Al-Azzam 2012). Trust is a fundamental issue that affects intention to use e-government services in Jordan (Alomari 2012) and potentially the demand on using e-government services are not improving (Mofleh 2008). Citizens' propensity for trust is influenced by many factors, like their trust in their government, trust in technology, their previous experience with e-government, the website quality, the IQ dimensions, risk propensity, trust propensity and privacy and security perceptions (Abu-shanab, 2012).

1.6 Study objective and research questions

The objective of this research is to explore the quality of e-government services in Jordan from the perspective of citizens (users). More specifically, it aims to:

- (i) Examine and describe the experience of quality e-government services;
- (ii) Understand how expectations of e-service quality is formed; and
- (iii) Understand the impact of quality e-government services on citizens' trust of the e-government services.

The research is guided by the following research questions in the context of Jordan:

RQ1: What is the citizen's perspective about the quality of e-government services?

RQ2: How are citizens' expectations of quality e-government service formed?

RQ3: How does quality of e-government services impact on citizens' trust of e-government services?

This research argues that qualitative research is needed to go deeper and answer these questions.

Therefore, the research undertakes an exploratory inductive approach in research of Jordanian e-government services, using a interviews with 20 citizens who use e-government service, from different locations and of different ages. Also secondary data is gathered from e-government websites to provide understanding on the types of e-government services offered to citizens in Jordan.

1.7 Contribution of the study

The major contribution of the research is in providing a better understanding of citizens' perspectives about the quality of e-government services in a developing country. This provides news insights around the adoption of e-government by users. It shows how the issues around the quality of e-government services and citizen' trust are different in developing and developed countries. Adding a new dimension to e-government research, it also provides insights into how citizens' expectations on the quality of e-government are formed by examining their use of other online services. It also provides recommendations and improves understanding of how government agencies could respond to issues of quality e-government services and citizen' trust.

1.8 Outline of the research

The rest of the thesis is organised as follows:

Chapter 2 reviews the contemporary research of e-government and e- service quality; also build the theoretical background of this research. Chapter 3 explains the research design and methodology. Chapter 4 presents the study's findings about the use of e-government service, quality of e-government service and impact of quality e-government service on citizen' trust. Chapter 5 discusses and conclusion explains how the findings answer the research question, includes the limitation of study and future research, contribution of research and participant suggestions to improve the quality of e-government service and trust.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

An objective of e-government service is not only to provide information and service but also to encourage the frequent use of e-government services by citizens, who are the primary stakeholders of government activities. Thus, understanding the factors affecting citizens' perspective of the quality of e-government service success is important (Wang and Liao 2008). Previous research (Venkatesh and Davis 2000) has shown that organisations fail to accrue the benefits of IT investments if users are unwilling to use the available systems (Venkatesh et al. 2003) and this indicates that it is important to understand users' perspectives and how they make sense of the value of a system.

As argued by many scholars, "The quality of service is the key element for success or failure of an organisation" (Lee and Lin 2005 p.23), and it is significant for the long-term success of e-government services (Zeithaml, Parasuraman, and Malhotra 2002). There has been much emphasis in the literature in recent years on e-government service quality, citizen adoption and citizen satisfaction, with many types of models and frameworks to evaluate and assess the quality of e-government service success from different perspectives (Bertot, Jaeger, and Grimes 2010). One notable area that is missing between perceptions of e-service quality, adoption and satisfaction is an understanding of how citizens form their expectations of quality, satisfaction and decide to continually use e-government, and its impact on trust.

The literature review is divided into two parts. First, it reviews and analyses the contemporary literature on e-government. It reviews studies across the fields of IS, management and policy. It outlines how the e-government research has evolved the different focus and concerns over years. It then reviews the main benefits and challenge of the use of e-government services from both citizens' and governments' perspectives. The second part brings together the theoretical foundations for this study by drawing on the three streams of theoretical background and theory and linking these to the research questions and motivation. It also reviews other essential concept and insights in the IS and e-commerce research that can help provide an understanding and framework on how the citizens' expectations may form, to provide the basis of building research questions.

2.2 Contemporary research on e-government

The purpose of this section of the literature is to review the existing e-government research. Researchers have offered a range of viewpoints to understand the effectiveness and efficiency of e-government initiatives and the technology that enables e-government adoption and use.

2.2.1 Early e-government research

At the early stages of e-government research the focus was primarily on themes and how IT changes how government services are offered. Some literature focuses on e-government definitions or framing the e-government as a concept (Baum and Di Maio 2000; Howard 2001; DeBenedictis et al. 2002; Fang 2002). As an initial theme, Layane and Lee (2000) attempted to define potential models of e-government system to define the scope of e-government studies such as Government-to-Citizen (G2C); Citizen-to-Government (C2G); Government-to-Business (G2B); Business-to-Government (B2G); and, Government-to-Government (G2G) (Baum and Di Maio 2000; Layne and Lee 2001; Fang 2002).

At the same time, some other studies have tried to define the e-government challenge and opportunities (Ndou 2004; Jaeger and Thompson 2003) and e-government development and initiatives (Tat-Kei Ho 2002; Layne and Lee 2001; Fang 2002). Others have tried to provide the requirements

for further e-government research (Chadwick and May 2003; Jaeger and Thompson 2003; Howard 2001).

Following this, the research started to focus on factors related to the impact of e-government on citizen attitudes about government – for instance, the effect of e-government on citizen’ trust and confidence in government through e-government, and how e-government improves the communication between government and citizen (Welch, Hinnant, and Moon 2005; Carter and Bélanger 2005; Tolbert and Mossberger 2006). Other research studied citizens’ satisfaction through improved communication between government and citizens (Welch, Hinnant, and Moon 2005), and user acceptance and risk adoption (Bélanger and Carter 2008).

As a summary of the early themes in e-government research, scholars focused on e-government success factors, the limitation of e-government, and critical factors including perceived usefulness, ease of use, perceived risk, trust, compatibility, external influence, interpersonal influence, self-efficacy, and facilitating conditions. (Hung, Chang, and Yu 2006) also studied the digital divide (Helbig, Gil-García, and Ferro 2009).

2.2.2 Moving to a focus on the demand side: the ‘citizen centric’ view

By 2010, e-government research focused on demand side or themes related to citizen side because the citizen is the main stakeholder for e-government services. For instance, research looked at adoption and creating public value through using e-government services (Gauld, Goldfinch, and Horsburgh 2010; Linders 2012; Osman et al. 2014).

Also based on the importance of providing citizen high quality service, other researchers tried to measure the quality of e-government services to create awareness among e-service managers, to give more attention to e-government service quality, as well as assisting them to improve e-service by measure e-services. Alanezi et al., (2010) proposed seven dimensions for measuring e-government service quality are website design, reliability, responsiveness, security/privacy, personalization, information, and ease of use.

While others evaluated efforts to promote transparency through ICT use, particularly as implemented through e-government efforts (Bertot, Jaeger, and Grimes 2010; Bonsón et al. 2012; Ae Chun et al. 2012). “Citizen-centric” emerged as an important theme of e-government research to identify the most critical factors and their manifested variables for user satisfaction in the provision of e-government services (Osman et al. 2014; Alomari, Woods, and Sandhu 2012; Chen 2010). At the same time, the e-government research continued to focus on early themes such as the successful factors (Irani et al. 2010; Bertot, Jaeger, and Grimes 2010) and new themes such as big data (Bertot et al. 2014; Kim, Trimi, and Chung 2014). Also in this period a blurring of the distinction between e-government, e-democracy and e-participation (Harrison et al. 2012) started to emerge.

2.2.3 Current research on e-government

Krishnan et al., (2013) and Zhang et al., (2014) argued that recent research on e-government can be categorised into three broad themes (Krishnan, Teo, and Lim 2013; Zhang, Xu, and Xiao 2014): (1) The evolution of e-government; (2) Adoption and implementation of e-government; and (3) Impacts of e-government on society. In particular, recent research has given more attention to the impacts of e-government on society and improving services. For instance, recent research has considered trust in e-government services (Alzahrani, Al-Karaghoul, and Weerakkody 2017; Colesca 2015) and also how to improve the quality of services (Sá, Rocha, and Cota 2016a, 2016b). Building on the traditional e-government research, other researchers are building on the stream of research that identifies issues

that influence the implementation of e-government and citizens adoption (Rana, Dwivedi, and Williams 2015; Taheri and Mirghiasi 2016). This research shows that cost, opportunities, benefits and risk continue to be important considerations (Alenezi, Tarhini, and Masa'deh 2015; Bannister and Connolly 2015; Rana et al. 2015; Al-Hujran et al. 2015). A new stream of research focuses on how using e-government services can curb corruption in public administration (Ionescu 2015; Rose-Ackerman and Palifka 2016). Focusing on IT devices, recent research also builds on the research around mobile devices and considers the notion of m-government or mobile government on the effectiveness of m-government services are (Nica and Potcovaru 2015).

Overall however, the research has continued to focus on the citizen and the adoption of the e-government services. As part of this, scholars research on ways to improve the quality of e-government service (Arias 2018; Hong, 2018) and try to study what the impact of quality of e-government is on other factors, such as citizen acceptance (Razak, 2018). Along these lines, the research is very much still focused on the success factors of e-government services, for instance, Chen's (2019) study on how to make the e-government service successful and also what determines the success of e-government services.

2.2.4 The benefits of e-government use

One of the primary drivers for the use of e-government by government and citizens is the range of advantages it offers. Much of the earlier IS research on e-government focuses on the benefits it offers for citizens, businesses, and governments around the world (Venkatesh et al. 2016; Alshehri and Drew 2010; Alsmadi and Abu-Shanab 2016).

This discussion begins with a focus on the benefits of e-government services for citizens. Table 2.1 lists some of the considerable advantages of using e-government for citizens, including availability, accessibility, cost saving, efficiency, improved quality of services, building of trust and improved citizen satisfaction.

Many of the benefits are interrelated. For instance, availability and accessibility of services leads to greater interaction with the government and improved quality of services (Tan, Benbasat, and Cenfetelli 2008; Alenezi, Tarhini, and Masa'deh 2015). In turn, quality of services has a positive effect on citizen satisfaction (Alzahrani, Al-Karaghoul, and Weerakkody 2017) and enables the participants to gain different types of benefits from such projects (Alenezi, Tarhini, and Masa'deh 2015).

Turning to discuss the benefits of e-government services for government, Table 2.2 shows some significant benefits of using e-government for the government. These include cost reduction, information sharing, improved quality of services, improved quality of information, and enhanced exchange of information.

The benefits of e-government for government are interrelated also. For instance, the information quality and information sharing (Alenezi, Tarhini, and Sharma 2015) perceived value of information is determined by the information receiver's accumulated experience with the information itself and the information-sharing process. And information quality and information sharing are improving the e-government services and productivity (Alshehri and Drew 2010; Abu-Shanab 2014; Elbahnasawy 2014).

Benefits	Description	References
Availability and accessibility	Access to government information and services to be available anywhere and anytime.	(Alshomrani and Qamar 2013) (Venkatesh et al. 2016; Alshehri and Drew 2010)
Cost saving	Cost, in terms of money and time, is reported as one of the most important factors in the use of e-government. Citizens are able to make monetary saving in terms of reduction in travels cost, time away from work and other resources to access government services in person.	(Venkatesh et al. 2016; Ashaye and Irani 2014; Alshomrani and Qamar 2013; Medeni et al. 2011)
Efficiency	Providing public services efficiently and effectively to citizens is one of the main benefits of e-government for citizens.	(Alshomrani and Qamar 2013; Abu-Shanab 2014; Elbahnasawy 2014)
Improve quality of services	E-government use of information and communications technologies by governments to enhance the quality of services and information provided to their citizens.	(Ashaye and Irani 2014); (Alshomrani and Qamar 2013; Abu-Shanab 2014)
Build trust	Helps in building trust between governments and citizens, an essential factor in good governance by using Internet-based strategies to involve citizens.	(Alshehri and Drew 2010)
Citizen satisfaction	Improves customer satisfaction by providing high quality services.	(Guo 2010; Bikfalvi, de la Rosa, and Keefe 2013; Bonsón, Royo, and Ratkai 2015)

Table 2.1 Benefits of using e-government for citizens

Benefits	Description	References
Cost reduction	The cost of ICT services for public organisations and individuals also reduces in cloud based e-government systems because they lease ICT resources and services according to their needs instead of investing in these resources.	(Alshomrani and Qamar 2013; Ashaye and Irani 2014)
Scalability	One of the main stakeholders of e-government system is citizens. With the passage of time citizens are attracted more and more towards e-government.	(Alshomrani and Qamar 2013; Parwekar 2011)
Information sharing	Share information and ideas between all government agencies and department to build one mega data base.	(Ashaye and Irani 2014) (Alshehri and Drew 2010)
Improve services	Improves services through better understanding of users' requirements, thus aiming for seamless online services.	(Alshehri and Drew 2010; Abu-Shanab 2014; Elbahnasawy 2014)
Develop 'citizen-centred' services	User-centred e-government suggests that governments will provide services and resources tailored to the actual service and resource needs of citizens, residents, government employees, and others	(Alshehri and Drew 2010; Bertot, Jaeger, and McClure 2008)
Improved transparency	E-government is a powerful tool in reducing corruption—via telecommunication infrastructure and the scope and quality of online services—which is strengthened by greater Internet adoption	(Elbahnasawy 2014)

Improve information quality	Useful information, appropriate amount, relevance, understands ability, interpretability, objectivity, completeness and error-free information.	(Alenezi, Tarhini, and Sharma 2015)
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Table 2.2 Benefits of using e-government for government

2.2.5 Challenges to the use of e-government

The e-government literature has provided a large body of evidence on what challenges citizens and governments face to increased use of e-government. Table 2.3 summarises the challenges from citizens' perspectives.

Focusing first on the challenges from citizens' perspectives; the early literature focused heavily on themes such as awareness, access to services, and beliefs (Nam and Sayogo 2011; Al-Sobhi, Weerakkody, and Al-Busaidy 2010). More recent research has focused on issues such as privacy and security and trust (Majdalawi et al. 2015), perceived usefulness (Al-Jamal and Abu-Shanab 2015), and digital divide (Al-Jaghoub, Al-Yaseen, and Al-Hourani 2010).

Some researchers argue the trust between government and citizens is one of the benefits of using e-government services (Alshehri and Drew 2010), while other claim the trust is one of the challenges of using e-government services (Majdalawi et al. 2015; Al-Jaghoub, Al-Yaseen, and Al-Hourani 2010; Nam and Sayogo 2011), so there is a need to build trust between citizen and government agencies to have successful implementation of e-government services; otherwise the trust will remain one of the significant challenges of using e-government services.

Challenges	Description	References
Lack of trust	Trust is the main challenge of e-government services; to have a successful implementation of e-government must build trust within citizens. Trust is a vitally important component of e-government projects. Without trust, citizens who may already be leery of using technology may avoid and even shun the use of online services that ask for detailed personal information.	(Majdalawi et al. 2015; Al-Jaghoub, Al-Yaseen, and Al-Hourani 2010; Nam and Sayogo 2011)
Beliefs	Intention to adopt e-government increases if the citizens have high level of positive beliefs toward e-government.	(Alomari, Sandhu, and Woods 2009)
Privacy and security	Protecting the privacy of citizens' personal information stored on these databases while making effective use of the information contained in them is a vitally important issue. Remains one of the main reasons why most individuals and organisations refrain from using e-government services.	(Majdalawi et al. 2015) (Al-Shboul et al. 2014)..
Perceived usefulness	The extent to which citizens believe that using e-government website would be useful for their transactions, saves their time, and enhances their life. 'Intention to use e-government website': The extent to which citizens are willing to use an e-government website and utilize the resource.	(Al-Jamal and Abu-Shanab 2015; Al-Sobhi, Weerakkody, and Al-Busaidy 2010)

Awareness	to how familiar or conscious an individual is of a particular service or e-government initiative, including how familiar one is with the benefits that a particular service might provide. Awareness has been identified as a challenge for e-government adoption.	(Nam and Sayogo 2011; Al-Sobhi, Weerakkody, and Al-Busaidy 2010).
Digital divide	The disparity between individuals who engage with digital technology and those who do not.	(Al-Jaghoub, Al-Yaseen, and Al-Hourani 2010)

Table 2.3 the e-government challenge from citizens' perspectives

Turning to the challenges of e-government services from the government perspective, Table 2.4, the early literature focused on themes like organisational factors (Ebrahim and Irani 2005; Sang and Lee 2009) and accessibility (Alomari, Sandhu, and Woods 2009). More recent research has focused on issues such as the lack of advanced and secure technical infrastructure, high cost (Al-Shboul et al. 2014) and technological factors (Shannak 2013; Majdalawi et al. 2015).

Some researchers focus on e-government challenges in developing countries, like the high cost of e-government services is the challenge (Al-Shboul et al. 2014), while in developed country e-government services reduce cost (Alshomrani and Qamar 2013; Ashaye and Irani 2014). Others have shown that e-government projects fail because of missing business goals and underestimated operation costs (mission failure); because they fail to make a profound impact on the lives of the people (objectives failure) (Anthopoulos et al. 2016).

Challenges	Description	References
Accessibility	Governments must serve all members of society irrespective of their physical capabilities (disabled people: those who are blind, deaf or otherwise handicapped) and provide quality services for citizen. Online services will have to be designed with appropriate interfaces.	(Alomari, Sandhu, and Woods 2009)
technological factors	The most significant challenges for implementing e-government initiatives is computer security; the risks of fraud and misuse of sensitive data are concerns as well. Privacy also presents a challenge to the implementation and acceptance of e-government initiatives.	(Shannak 2013; Majdalawi et al. 2015)
Organization factors	The e-government strategy should consider how to restructure existing organisational models, roles, responsibilities, training, and employees' needs.	(Ebrahim and Irani 2005; Sang and Lee 2009; Nurdin, Stockdale, and Scheepers 2015)
High cost	Accessing the wireless Internet is perceived as a major constraint on the proliferation of e-government services.	(Al-Shboul et al. 2014)
Infrastructure development	All countries implementing e-government have struggled to develop a basic infrastructure to take advantage of new technologies and communications tools. Many developing countries, even if possessing the will, do not have the infrastructure necessary to immediately deploy e-government services throughout their territory, and the lack of advanced and secure technical infrastructure.	(Al-Shboul et al. 2014)

Big data	E-government is facing great challenges and tests, and the processing of complex data in the era of big data will become the main theme of the development of e-government	(Li, Liu, and Liu 2014)
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Table 2.4 E-government challenges from government perspective

2.3 Theoretical background

The previous section discussed the evolution of e-government research and then examined the theme of e-service quality broadly. To build the conceptual framework for this study to inform the research, this section examines the literature relating to the themes underpinning the research questions. In order to investigate citizens' perspectives about quality of e-government service, section 2.3.1 draws insights from the review of e-service and e-government literature. In order to investigate how citizens' expectations of quality e-government service *are formed*, Section 2.3.2 draws from concepts related to expectation-confirmation theory, spill over effects and also draw from citizen use, adoption and satisfaction. For the third research question of the how quality of e-government services impact on citizens' trust of e-government services, Section 2.3.3 draws on literature and concepts related to e-government and trust. The themes are then summarised in Section 2.3.4.

2.3.1 Theme one: Citizens' perception of quality e-government service

The previous section discussed the evolution of the literature on e-government. One of the constant themes was the research that considers issues around its adoption and use and the related issues of the quality of e-government services. This section examines the literature on e-service quality, which has a history and focus that goes beyond e-government. This is because in order to understand e-service experiences, it is necessary to take into account the inherent characteristics of e-service delivery and the factors that differentiate one service experience from another (Rowley 2006). Based on that, the purpose of this section is to review academic publications and assess existing e-service quality research efforts.

2.3.1.1 Understanding e-service quality

E-service quality is the key to the success or failure of organisations (Lee and Lin 2005). Quality is an important determinant for long-term success in e-service in different domains such as e-commerce and e-government (Zeithaml, Parasuraman, and Malhotra 2002). Recently, researchers have become more interested in e-service quality and its implications. Particularly, e-government researchers are drawn to e-service quality due to its importance to citizens (Al-Nuaimi et al. 2013). This section discusses the definitions related to e-service quality.

E-service quality

Since the beginning of 2000, the concept of e-service has been used increasingly by researchers and practitioners (Ojasalo 2010). There are many definitions of e-service that differ in terms of the channels, processes, objects and the outcome of service. For instance, some definitions focus specifically on the Internet such as, that of Surjadjaja, Ghosh and Anthony (2003) who define 'e-service operation' as one where all or part of the interaction between the service provider and the customer is conducted through the Internet. An e-service has 'front-end' web-based systems and 'back-end' information systems (Surjadjaja, Ghosh, and Antony 2003). Others define 'e-service' as interactive service, or as web-based service, or as self-service (Sara 2000; Dabholkar 1999; Rowley 2006).

The definitions of 'e-service' also involve various aspects of value exchanges via electronic channels (Scupola 2010; Singh 2002; La and Kandampully 2002; Gummerus 2010). Some of the definitions highlight the nature of the exchange process itself (Scupola 2010), while others emphasise

information as the object of the value exchange (Rust and Lemon 2001), the channels of value exchange (Rust and Kannan 2002) or the outcomes of such value exchanges (Piccinelli and Stammers 2002).

Based on the above discussion, most e-service activities on the Internet can be viewed as falling into one of the different forms of e-services. In this context, most of the e-service quality researchers agree to define 'e-service' as deeds, processes and performances whose delivery is intermediated by various information technologies (for example, Chen et al. 2017; Rowley 2006; Al-dweeri et al. 2017).

Service quality

Before further reviewing the literature on e-service quality, it is worth examining the broader topic of service quality. Research shows the value of building service quality in different situations such as online context, Ladhair (2010) showed that service quality plays an essential role in achieving important outcomes including trust, satisfaction and loyalty (Ladhari 2010; Zhao et al. 2012). Therefore, we need to understand what service quality means, and how the literature explains service quality from different viewpoints over time.

Some researchers view 'service quality' as an elusive and abstract construct that is difficult to explain and measure (such as Cronin Jr and Taylor 1992). Nevertheless, service quality is commonly understood to be a measure of how well the service level delivered matched customer expectation. For example, Gummesson (1979) suggested that the concept of service quality was strongly related to other operatives, such as perceptions and trust. Grönroos (1984) defined the concept of service quality, as "the outcome of an evaluation process, where the consumer compares his expectations with the service he perceives he has received" (Grönroos 1984, p.54). Parasuraman et al. (1988) developed a definition of 'service quality' as being "the overall evaluation of a specific service firm that results from comparing that firm's performance with the customer's general expectations of how firms in that industry should perform" (Parasuraman, Zeithaml, and Berry 1988). Following the above discussion, this thesis defines service quality as the overall evaluation of a specific service that results from comparing that firm's performance with the customer's general expectations of how firms in that industry should perform (Parasuraman, Zeithaml, and Berry 1988). Even though this definition is applied to commercial firms (e.g. banks, utilities) it is applicable to government services because they increasingly have to meet service requirements and customer expectations.

E-service quality

Having defined e-service and service quality as foundational concepts, the review moves on to discuss the e-service quality definitions from different viewpoints over time. Some researchers' initial understanding of e-service quality is based on traditional service quality. For instance, Li and Suomi (2009) believe that the concept of quality in an electronic service derives from the quality of traditional services (Li and Suomi 2009), and knowing how the electronic services or e-service differ from traditional services, to the extent that they depend on the interactive information flow between customers and service providers (Li and Suomi 2007). Other authors consider the e-service quality based on a comparison of offline and online market places. For instance, Van Riel et.al (2001) argue that 'service quality' can be defined as the consumers' overall evaluation and judgment of the excellence and quality of e-service offerings in the online marketplace. In contrast to their evaluation of traditional service offerings, customers are less likely to evaluate each sub-process in detail during a single visit to a website; rather they are likely to perceive the service as an overall process and outcome (Van Riel, Liljander, and Jurriens 2001).

In contrast, other researchers try to understand e-service quality through fulfilment of the gap between the customer expectation and actual perception. For instance, Collier and Bienstock (2006); Zeithaml (2002) and Lu et al. (2009) argue the conceptualisation of e-service quality is rooted in expectancy disconfirmation theory. Expectancy disconfirmation theory refers to the direction and magnitude of the discrepancy between expectations and perceptions of e-service quality. This discrepancy is a function of organisational gap (Zeithaml, Parasuraman, and Malhotra 2002). These gaps occur in a company's operation processes and collectively lead to fulfilment gaps on the customer's side, resulting in an adverse effect on perceived e-service quality. The fulfilment gap here represents the overall discrepancy between a customer's expectations and actual perceptions (Zeithaml, Parasuraman, and Malhotra 2002; Parasuraman, Zeithaml, and Malhotra 2005).

Further review of the literature reveals many definitions related to various types of e-service, such as e-commerce, e-banking and e-government. This research will adopt e-service quality in the e-government context. Many researchers have referred to 'e-government service quality' as the degree to which an e-government website facilitates the competent delivery of efficient e-services to help citizens, businesses and agencies in achieving their governmental transactions (Tan, Benbasat, and Cenfetelli 2008). With the rapid development of IT, governments try to enable citizens and enterprises to access government services and information efficiently and effectively through providing quality services, as well as by improving transparency, accountability and governance capacity of governments through the Internet and other IT communication channels (Aikins and Krane 2010).

E-service quality dimension

Based on the significance of the e-service quality and the large number of studies in this area we need to identify the key e-service quality dimensions. Much research adopts the well-known SERVQUAL model (Parasuraman et al. 1988). The model identifies five dimensions of quality:

- Tangible: encompasses the appearance of physical facilities, equipment, and personnel
- Responsiveness: willingness to help customers and provide prompt service
- Reliability: ability to perform the promised service dependably and accurately
- Assurance: knowledge and courtesy of employees and their ability to convey trust and confidence
- Empathy: approachability, ease of contact, and making the effort to know customers and their needs.

The SERVQUAL model has been widely tested as a means of measuring customer perceptions of service quality and is the most widespread method of measuring service quality (see section 3.2.) (Carrasco et al. 2017). At the same time, scholars recognise that it is difficult to develop a global measure of online service quality, because the measure of service quality has become industry or context dependent (Kuo, Wu, and Deng 2009).

Despite the wide popularity of SERVQUAL, it does not apply to all types of services (Landrum and Prybutok, 2004). Brady and Cronin (2001) introduced a model that included three primary dimensions: interaction, physical environment, and outcome quality. However, the complexity of service quality evaluations is a reason many researchers have failed to use or replicate existing models in disparate contexts. Measurement of service quality varies according to the context and objectives of a study (Aker et al., 2010; Brady and Cronin, 2001), and across service types (Zhao et al., 2012).

The review of research that discusses e-service quality dimension reveals that most of research is quantitative and many researchers provide a summary of the e-service quality dimension such as

(such as Alanezi, Kamil, and Basri 2010), but only a limited number discuss e-service quality from a qualitative research perspective. This means there is a lack of understanding in terms of deep qualitative insights. Addressing this, this study adds to the literature on quality of service by adopting a qualitative approach.

2.3.1.2 Contemporary research on e-service quality

The early stages of e-service quality research focus initially on broad themes such as associated e-service quality dimensions, e-service quality measures and the relationship between e-service quality with consumer behaviour and customer satisfaction (Rowley 2006). Research on e-service quality dimensions focuses on conceptualising and measuring e-service quality (e-SQ), and particularly in determining the dimensions of the construct (efficiency, reliability, fulfilment, and privacy – from the core e-service quality scale) (Zeithmal 2002). Research on e-service measures considers the importance of measuring and monitoring e-service quality and has been recognised by managers and academics (Field, Heim, and Sinha 2004). Research on the relationship between e-service quality dimension and customer perceptions considers different aspects, such as service quality, customer satisfaction and purchase intentions (Lee and Lin 2005; Yang and Jun 2002; Sivadas and Baker-Prewitt 2000; Wang 2003; Al-Hawari and Ward 2006; Zeithaml 2002), in different contexts such as e-banking (Al-Hawari and Ward 2006) and in e-commerce (Wang 2003). While several researchers identify suitable determinants for e-commerce service, in order to understand e-service experiences it is necessary to go beyond studies of e-service quality dimensions to also take into account the inherent characteristics of e-service delivery and the factors that differentiate one service experience from another (Rowley 2006). Several researchers identify suitable determinants for e-commerce service quality (Cox and Dale 2001) or for e-retailing (Long and McMellon 2004).

E-service adoption, e-trust and e-service quality (2007–2013)

From around 2007, research started moving away from the initial themes and focused on the effects of the perceived web quality with service content on e-trust. For instance, Hwang and Kim (2007) and Eid (2011) argued that trust (integrity, benevolence and ability) is the central dimension of e-commerce systems adoption (Hwang and Kim 2007; Eid 2011). Other researchers focused on the relationship between e-trust, e-loyalty, satisfaction, and e-service quality in different contexts (e-commerce, e-banking). For instance, Kim, Jin and Swinney (2009), proposed and tested an integrative model of e-loyalty development process by conceptualising that e-loyalty is influenced by e-satisfaction, e-trust and multi-dimensional aspects of e-retail quality (Kim, Jin, and Swinney 2009).

Researchers extended their studies to compare different cultural contexts. For example, one study considered the impact of a firm's reputation on consumers' evaluation of e-retailers' market response outcomes (satisfaction, trust, and loyalty) in two cultures, the United States of America (USA) (defined by individualism, low context, and high-trust society) and South Korea (defined by collectivism, high uncertainty, high context, and low-trust society) (Jin, Yong Park, and Kim 2008). Kim and Kim (2010) compared the e-service quality perceptions of the USA and South Korean consumers in relation to overall e-service quality, e-satisfaction, and e-loyalty to understand geographic and cultural differences in relation to the international expansion of e-business (Kim and Kim 2010).

Some studies aim to identify the similarities and differences between the perspectives of providers and customers regarding the important dimensions and attributes of e-service quality. For instance, Stiakakis and Georgiadis (2009) studied service quality between e-government users and administrators. Along these lines, studies have modelled the consequences of achieving better service quality in e-services (Sahadev and Purani 2008; Carlson and O'Cass 2011).

In the same period, other researchers have continued to extend initial themes – for instance, the development of e-service quality measures based on online financial services (Sohn and Tadisina 2008), and creating conceptual frameworks to examine the quality of online self-services in e-retailing (Ding, Hu, and Sheng 2011). Udo, Bagchi and Kirs (2010) examine the dimensions of web service quality based on e-customer expectations and perceptions (Udo, Bagchi, and Kirs 2010). Padomichelaki and Mentzas (2012) create an e-government service quality model (e-GovQual) which is conceptualized and then a multiple-item scale for measuring e-government service quality of governmental sites where citizens seek either information or service, is developed, refined, validated confirmed and tested (Papadomichelaki and Mentzas 2012). Other research expands the knowledge concerning service quality dimensions in the context of Internet commerce, from the differing perspectives of Internet purchasers and Internet non-purchasers. Six primary service quality dimensions perceived by Internet purchasers were uncovered: reliability, access, ease of use, personalisation, security, and credibility. In contrast, seven dimensions were discovered for Internet non-purchasers: security, responsiveness, ease of use, reliability, availability, personalisation, and access (Yang and Jun 2008).

Several studies have shown the growth in research focused on understanding the relationship between e-service quality factors (e-trust, e-adoption, e-satisfaction, willingness to use) through studying the relationship between these factors and e-service quality from the different perspective (customer, provider (Stiakakis and Georgiadis 2009), or from different cultures (Kim and Kim 2010), or study the element in a different context (e-commerce, B2C , e-banking) (Ghane, Fathian, and Gholamian 2011).

Current e-service quality themes (2013–present)

Recent research evaluates the dimensions and e-service in different and novel contexts (for example, e-government, e-commerce, university library). For instance, Hien (2014) proposes a framework to evaluate e-government service quality (Hien 2014), while Einasto (2014) aims to contribute to the literature by identifying the major e-service evaluation criteria from the point-of-view of users of the largest university library in Estonia. Carrasco et al. (2017) evaluate the quality of the e-service offered by the hotels through several websites, taking into account the experience of such users on the World Wide Web.

Current research in e-service quality focuses on e-service quality dimension in different and new contexts; for instance, mHealth (Mobile health) service quality is a hierarchical, multidimensional, and reflective construct, which consists of three primary dimensions and eight sub-dimensions (Akter, D'Ambra, and Ray 2013). To use e-government services, some research tries to create a model for understanding the relationship between service quality dimensions and demographic variables, and the willingness to use e-government services, for example (Sharma 2015; Sá, Rocha, and Cota 2016).

This research has also tried to improve the e-service quality measure by building a conceptual framework for measuring e-service quality (Collier and Bienstock 2015). Some literature goes deeply to explain how e-trust, e-satisfaction and e-service quality affect each other in different contexts. This includes, for instance, finding the role of trust (as a mediating variable) e-service quality and customer satisfaction in Internet banking (Kundu and Datta 2015; understanding the relationship between perceive usefulness and trust of online health services (Mou, Shin, and Cohen 2017); and the role of online satisfaction and e-trust as mediators in the relationship between electronic service quality and online loyalty in the context of e-shopping (Al-dweeri et al. 2017).

Based on a review of the literature, the key areas over the years can be grouped into two main categories; identifying e-service quality dimensions (Zeithaml 2002; Wu, Shen, and Chang 2015; Kim-Soon, Rahman, and Ahmed 2014) and measures (Field, Heim, and Sinha 2004; Collier and Bienstock 2015); and understanding the relationship between e-service quality and consumer behaviour, customer satisfaction (Lee and Lin 2005; Yang and Jun 2002; Sivadas and Baker-Prewitt 2000; Al-dweeri et al. 2017).

After a discussion of e-service quality dimensions, it is useful to have the following discussion about e-government service quality dimensions. Alanezi et al. (2010) provide a summary of e-government service quality. They argue, based on the previous research on e-service quality, that the dimensions of e-government service quality, the five SERVQUAL dimensions (website design, reliability, responsiveness, security/privacy, personalisation) should be expanded to include two additional dimensions (that is, information and ease of use) (Alanezi, Kamil, and Basri 2010). The reason for adding the two dimensions is because of their relevance to online government, based on prior studies such as those of Yoo and Donthu (2001) and Sohn and Tadisina (2008).

Akter et al. (2010) argue that research must be more specific when it comes to service quality, suggesting that its conceptualisation and measurement should be based on users' perceptions and be context specific, hierarchical and multidimensional. And as shown above, if we want to understand the initial issues relating to e-service quality such as definition, dimension, and so on, the researcher must focus on the citizen's perspective to understand how citizens define and measure e-service to provide and improve e-service quality in different contexts. In the service quality field, service researchers need to pay more attention to customer evaluations of e-services, because methods of measuring service quality differ between e-service and physical marketplace service (Parasuraman and Grewal 2000).

Quality of e-government services can also be evaluated by user satisfaction and the intention of future use. Bertot et al. (2008) analyse the associated benefits and cost for a citizen centric service model. They observe that for the user-perceived service quality of e-service quality model, in e-government, there is a need to understand user expectations, to identify issues that prevent citizens and other stakeholders from using e-government services and the factors which enhance user experiences with e-government services (Bhattacharya, Gulla, and Gupta 2012).

In research examining the features of e-government service that have positive impact on citizens, Verdegem and Hautekeete (2007) find that the online presence of government organisations itself serves as a moral support for citizens. They also identify reliability, security, usability, content readability, ease of use, content quality, cost effectiveness, privacy or personal information protection, transparency, courtesy, responsiveness, accessibility and flexibility as other contributory factors to user satisfaction (Hien 2014). This adds to the significance of evaluating e-government service quality from citizens' perspectives.

2.3.2 Theme 2: Understanding how citizens' expectations on e-government service quality are formed.

One of the areas this research examines is how citizens form their expectations on the quality of e-government. As this is a new direction of research for e-government the research turns to several theories and concepts that help to explain how citizens form expectations and understanding the fit of a service with their expectation. It begins with visiting the literature on expectation theory and in particular expectation confirmation theory (ECT) and understanding of spillover. It then turns to models that help illuminate the adoption use and satisfaction of IS and e-government.

2.3.2.1 How expectations are formed

Definitions of ‘expectations’ have been offered by researchers a cross range of fields such as social psychology and organisational behaviour (Shackle, 1952; Vroom, 1964). In reviewing these definitions, two primary components of expectations become apparent: (1) a future time perspective and (2) a degree of uncertainty. On these grounds, the following working definition of user expectations for an information system is proposed: **a set of beliefs held by the targeted users of an information system associated with the eventual performance of the IS and with their performance using the system.**

One theory on expectation – the Expectation Confirmation Theory (ECT) – was proposed by Oliver (1980) to study consumer satisfaction, repurchase intention and behaviour. Based on this theory, consumers compare their initial expectation before purchase with the actual performance after a period of initial consumption. Accordingly, consumers are satisfied if their initial expectation matches the actual perceived performance. In an e-service context, users have an initial expectation about cost, benefit, risk and opportunity, and if they find evidence that the actual e-service fulfils their expectation, then users’ satisfaction levels will be high, and they will probably re-use the service (Brown, Venkatesh, and Goyal 2014). In the ECT, the context dictates the choice of the specific constructs: expectations, experiences, and outcomes. For example, used in the context of service quality to explain user reactions in IS (Kettinger and Lee 2005).

Expectations directly predict outcomes, thus representing perfect assimilation toward an individual’s *a priori* beliefs. Specifically, outcomes are predicted only by expectations and experiences play no role. Understanding the relationship between *a priori* expectations and *a posteriori* evaluations is an important issue for researchers and practitioners in a variety of domains – such IS. There is some confusion regarding the relationships among expectations, experiences, and outcomes. It is worth noting that expectation confirmation models are examined in specific contexts (Brown, Venkatesh, and Goyal 2014).

This theory has been widely used in marketing literature to predict individual (customer or user) behaviour. Expectations confirmation this theory formerly in marketing and Oliver (1980) provides an essential definition of ‘expectations’ as narrow as beliefs or predictions about a focal brand’s (service /product) having desired attributes. This theory has developed in recent years as an essential theory for the study of individual behaviour framework and this current research will use expectations theory to ascertain how citizens’ expectations are formed. A number of expectations paradigms have been confirmed, such as Aurier and Guintcheva (2014) who propose a theoretical framework in which the direction of the impacts of experiential emotions on satisfaction depends on the consumer’s expectations relative to these emotions (Aurier and Guintcheva 2014), and they have been considerably adopted as theoretical and operational definitions of ‘motivation’. Even though the exact form of the expectations models defined by the different researchers have varied, most of these variations have been due more to differences in terminology than to conceptual difference.

In marketing, researchers demonstrate that consumers reach a repurchase intention in the following manner (Oliver 1980). Consumers form an initial expectation about a specific product or service before purchase or use, mainly based on previous experience and existing knowledge (Zeithaml and Berry 1990) as well as through interactions with a different type of the product and service) (Hossain and Quaddus 2012). Valvi and West (2013) agree that consumers firstly form an initial expectation before purchase, and then build perceptions about the performance of the consumer product/service after a period of initial consumption. Next, consumers decide on their level of satisfaction based on

the extent to which their expectation is confirmed through comparing the performance of the product/service against the initial expectation (Valvi and West 2013).

According to the theory which is described by Oliver (1980; 1999), at pre-purchase (pre-use) stage consumers form an initial expectation (that is, the expectation) before making a specific transaction. Kim (2012) argued that term 'expectation' refers to what consumers believe they should and will receive from sellers through the purchase or use. After a period of initial consumption, they form perceptions about its performance (that is, perceived performance). Next, they assess its perceived performance vis-à-vis their original expectation and determine the extent to which their expectation is confirmed (that is, confirmation). They form a satisfaction level based on their confirmation and their expectation. Finally, the satisfied consumer builds a repurchase reuse intention (Kim 2012).

Cadotte et al. (1987) provide a summary about how customer or user expectations are formed after they use a service or make a purchase: (1) they reflect on the desired performance in meeting needs/wants and (2) they are constrained by the performance consumers to believe that is possible as indicated by the performance of known brands. The second characteristic requires elaboration. Though consumers may imagine some ideal theoretical performance that a brand should provide, they also have concrete experiences with various real brands and their performance. Because consumers are more likely to think in concrete rather than abstract terms, experience with real brands should set limits on the performance (Cadotte, Woodruff, and Jenkins 1987).

While the above concepts have been a foundation of research in marketing and other fields, they have not been examined in detail in the literature on e-government services before or after citizens use the services. This research will address this by attempting to understand how citizen expectations are formed about quality e-government services by using qualitative research (interviews) to provide depth and nuance by insights into users' attitudes, feelings and behaviour.

Most citizens use another e-service such as e-shopping, so we need to find an explanation as to how citizens' expectations are formed and why the attention for e-government service is less than another type of e-service or ICT. This research will study citizens' expectations. We need to understand;

- how citizens formed their expectation before or after their transaction;
- whether citizens are building their expectations based on: 1) what they believe they should and will receive from e-government service through the transaction, or; 2) their experiences with e-government service quality; or 3) comparing the quality of e-government service with other quality e-service; or 4) different ways of forming expectations;
- Why citizens reuse e-government service.

In the next section we will explore the impact of satisfaction and awareness on citizen perspective.

While the above text focuses on expectations, a related theme is that of the spillover effect. This follows that e-government users' (citizens') evaluation of the service they have used will be affected by their interaction with the other e-service they have used. That is, the spillover effect of using another ICT will cause either a high expectation of e-government service performance or low expectations. As an example of this, a study of the use of mobile phones for work found that how they are used in the workplace and perceptions of use of mobile phones in the workplace is effected by how users used mobile phones in their everyday life (Karanasios and Allen 2014). Another example is how the use of a mobile app used for learning led to a spillover effect whereby users started to use other mobile apps on a regular basis (Lee et al. 2016).

Many researchers try to understand the factors are spillover related to the use of ICT – for instance, the spillover effect between electronic channel and consumption of the hotel service (Sabiote Ortiz, Frías-Jamilena, and Castañeda García 2017) and, spillover effects from smartphone use in everyday life into the travel context (Wang, Xiang, and Fesenmaier 2016). In marketing research, the spillover effect is commonly used to indicate that a high level of identification between the customer and company leads to better attitudes towards the product or service of an organisation. It is also used to uncover the impact of awareness in customers regarding the corporate social responsibility campaigns and how this increased level of knowledge leads to positive consumer behaviour (Chaudary and Ali 2016).

The spillovers between channels, different selling formats in online retailing will induce different strategic reactions from the manufacturer, because they will lead to different levels of sales in the e-channel which will impact the manufacturer's sales in the traditional channel (Yan, Zhao, and Liu 2017). Other research tries to understand the impact on selling formats in the e-channel under both positive and negative spillovers from the e-channel into the traditional channel (Yan, Zhao, and Liu 2017), understanding if the ICT positive spillover effect on e-government service use through citizen satisfaction about e-government service or its negative spillover. In this study we will need to understand what the spillover of satisfaction on citizen expectation of the quality service.

2.3.2.2 How expectations are formed through the lens of adoption, use and satisfaction

Having examined the background theory on how expectations are formed, it is worth examining the related concept of use, adoption and satisfaction of users with e-government services. This allows for an understanding of the gap between expectations (as derived from the use of other e-services) and the users' satisfaction as derived from the use of e-government services. In this section, the literature on the use and use factors is discussed by drawing two models that have been use in IS and for understanding e-government.

Within the field of IS, there is an abundance of models that focus on the adoption of different IS, for example (Shareef et al. 2011). One of the prominent models is the unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003). It has been adapted and applied to numerous technology acceptance types based on different views (Venkatesh et al. 2003). This body of literature on UTAUT describes the intent of users to employ systems of information. UTAUT brings forth constructs that are similar to factors in the Technology Acceptance Model (TAM).

E-government researchers need to study citizen satisfaction and how to improve citizen satisfaction but at the same time there is limitation of understanding how citizen satisfaction impact on citizen perspective about the quality of e-government service, because citizen satisfaction plays an important role in e-government success. Based on significant measure the citizen perspective about the e-government service, researches proposed the COBRA (cost, benefit, opportunity, risk) model to consider the citizen perspective on different type of e-services such as e-government.

Unified Theory of Acceptance and Use of Technology

The Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) is one among a number of other theories that address numerous technology acceptance types based on different views. These theories were established to discover and describe the intent of the user to employ systems of information. UTAUT brings forth constructs that are similar to factors in the TAM model. In UTAUT, there are four fundamental determinants, namely performance expectancy, effort

expectancy, social influence, and facilitating conditions (Zawaideh 2016), which are used in this study to understand the impact of social influence and facilitating conditions on citizens' perspectives.

Social influence is composed of different dimensions, such as affective commitment and compliance (Kelman, 1958), and social intervention for interaction and communication positively influence outcomes in varied dimensions and adoption of online application systems (Baugher, Varanelli, & Weisbord, 2003; Ellis, 2007; Gallardo, Barrero, Martnez-Torres, Toral, & Durn, 2007; Garrison, Anderson, & Archer, 2003; Rourke & Anderson, 2002). Understanding of these social factors will warrant contributing to the design of more effective e-government service systems and the government effective electronic citizen relationship management.

Social influence is the extent to which individuals determine the opinions and the belief of others about the system, to be sure if he or she should use the new system (Chiu & Wang (2008). Al-Sobhi et al. (2011) and Venkatesh et al. (2011) opine that social influences are a crucial determinant of behaviour. The suggestion is that if users of e-government are impacted by their social networks, how its impact on their expectation about the quality of e-government service.

Facilitating conditions are the extent to which an individual is confident that an organisational and technical infrastructure is available to support system use (Venkatesh et al. (2003). This research will study the impact of facilitating conditions on their perception about the quality of e-government service.

Perspectives on user satisfaction

Many e-government researchers focus on citizen satisfaction (Guo 2010; Bikfalvi, de la Rosa, and Keefe 2013; Bonsón, Royo, and Ratkai 2015). E-government can be expressed as the use of information and communications technologies by governments to enhance the quality of services and information provided to their citizens in efficient and cost-effective ways to gain citizen satisfaction (Zaidi and Qteishat 2012). So it is important when defining e-government to make sure that government fully understands stakeholders or citizen needs and expectations, and better plan e-government services provided to them and ensure citizens are satisfied (Axelsson, Melin, and Lindgren 2013), because quality of e-government services can be evaluated by user satisfaction and intention of future use.

In a study on e-government services, Verdegem and Hautekeete (2007) found that the online presence of government organisations itself serves as a moral support for citizens. They also identified reliability, security, usability, content readability, ease of use, content quality, cost effectiveness, privacy or personal information protection, transparency, courtesy, responsiveness, accessibility and flexibility as other contributory factors to user satisfaction (Hien 2014).

There have been many attempts by e-government researchers and practitioners alike to present comprehensive models to assess the success of e-government services from a user perspective. An investigation of the literature on conceptual models/frameworks to evaluate citizen satisfaction with e-government services disclose many studies such as (Rowley 2011; Medeni et al. 2011). However, these models are versions of (IS) or e-commerce adoption models. In particular, SERVQUAL (Parasuraman, Zeithaml, and Berry 1988), the National Customer Satisfaction Indices (NCSI), and IS success model (DeLone and McLean, 1992, 2003) are adaptations rather than being specifically designed for understanding government services. The customer satisfaction index (CSI), on the other hand, was developed to assess customer satisfaction with the provision of private and public sector services. It consists of a set of causal relationships that link user expectations, the perception of

quality and perceived value as antecedents of user satisfaction, and outcomes and user complaints as consequences (Fornell et al., 1996). Then, the outcomes component of the CSI model was modified to measure user satisfaction with the provision of e-government services (van Ryzin et al., 2004; Kim, Im and Park, 2005) (Osman et al. 2014).

The CSI was developed to ascertain customer satisfaction with the provision of private and public sector services. It consists of a set of causal relationships that link user expectation, the perception of quality and perceived value as antecedents of user satisfaction, and outcomes and user complaints as consequences. So, this model was developed to measure user satisfaction with government services (Fornell et al., 1996). Then, the outcomes component of the CSI model was modified to measure user satisfaction with the provision of e-government services (van Ryzin et al., 2004; Kim, Im and Park, 2005). Many e-government researchers study citizen satisfaction and how to improve citizen satisfaction, but at the same time there is limited understanding as to how citizen satisfaction impacts on citizen perspectives about the quality of e-government service.

COBRA model

The COBRA model was created because the primary objective of e-government is not only to get information, but also to motivate the frequent use of the e-government services by citizens. Then, satisfying citizen's needs provides the service providers with a helpful clarification about the re-use and the success of e-government services. The COBRA model is different to the other models because it proposes a holistic assessment framework for e-government services evaluation, based simultaneously on benefits, costs, and risks to users of using e-government services. Many of the other models do not consider risk. 'Risk' refers to the personal/financial data which can be misused either by the agency collecting such data or by external third parties, because research shows that online sharing of such data is hardly considered safe (Bannister and Connolly, 2011). Accordingly, safety, trust and security are considered as important factors that explain users' acceptance of e-services (Featherman and Pavlou, 2003; Pavlou, 2003). However, safety, trust and security are one side of risk; hence researchers need to pay more attention to analysing the different dimensions of trust. Opportunities for this are presented by the environment or country within which the e-government service operates (Osman et al., 2011). These arise when a user can realise benefits from the conditions offered by e-government or online services compared to using a conventional service (Osman et al. 2014). Based on the COBRA model, there is a need to know how the risk of using e-government services and the opportunity of using e-government impacts citizens respectively.

2.3.3 Theme 3: E-government service and trust

While many definitions of 'trust' exist, most commonly within the e-government research the Mcleod and Pippin's (2009) definition is used, which defines 'trust' as the expectation that one's interests will be protected.

Studies have demonstrated that higher levels of trust in government correlate with more intensive e-government service use and those satisfied with such services are more trusting of government (Horsburgh, Goldfinch, and Gauld 2011; Carter and Bélanger 2005; Parent, Vandebeek, and Gemino 2005; Tolbert and Mossberger 2006)

Abu-Shanab and Al-Azzam (2012) argued that the gate to e-government adoption is trust (Abu-Shanab and Al-Azzam 2012). This follows others that have shown that trust in government and perceived quality of public services are critical for e-government (Susanto and Goodwin 2010). More

recently, research focusing on the citizens' adoption of e-government services, such as (Colesca 2015), suggests that trust, security and transparency are the major issues for e-government adoption.

The literature clearly shows that citizens must trust e-government services to engage e-government services and to have a successful implementation of e-government and adopt these services, because e-citizens' adoption is the major objective of e-government (Welch, Hinnant, and Moon 2005; Teo, Srivastava, and Jiang 2008; Rehman, Kamal, and Esichaikul 2012; Khasawneh, Rabayah, and Abu-Shanab 2013; Alzahrani, Al-Karaghoul, and Weerakkody 2017).

2.3.3.1 Quality of e-government services and its impact on citizen' trust

Importantly, Colesca argues that empirical evidence relating to the impact of various factors on trust in e-government is sparse and under researched (Colesca 2015). The positive effect of offline service quality on online service adoption can be influenced by the level of trust in the Internet technology (Lee, Kim, and Ahn 2011).

As observed in the literature, many scholars, for example (Weerakkody and Dhillon 2009; Bannister and Connolly 2011; Janssen and Shu 2008; Gil-Garcia, Lips, and Flak 2014; Weerakkody 2009; Alzahrani, Al-Karaghoul, and Weerakkody 2017) argue that the successful adoption and acceptance of e-government provides potential advantages for citizens, business and other government agencies. However, in many countries, some citizens still consider that trust remains an obstacle to using online services and e-government applications, which impact the adoption of e-government (Al-Busaidy and Weerakkody 2009; Cullen and Reilly 2008; McLeod and Pippin 2009; Alzahrani, Al-Karaghoul, and Weerakkody 2017).

Also, there is still some rejection or even fear of e-government applications (Khasawneh, Rabayah, and Abu-Shanab 2013; Al-Hujran et al. 2015), which can lead to negative recommendations from the users/citizens who experienced it to other citizens (Khasawneh, Rabayah, and Abu-Shanab 2013; Al-Hujran et al. 2015). While several studies show that trust is important (Alzahrani, Al-Karaghoul, and Weerakkody 2017), few studies have analysed in detail how trust plays a role in the use of e-government services (Gefen et al. 2005; Horst, Kuttschreuter, and Gutteling 2007; Joinson 2009; Navarrete 2010; Alzahrani, Al-Karaghoul, and Weerakkody 2017).

Prior studies have noted the importance of studying the impact of e-government service quality on citizen' trust. This is because, firstly, governments need to understand what is influencing citizens' trust so they can achieve success in delivering e-government services (Alzahrani, Al-Karaghoul, and Weerakkody 2017; Colesca 2015). Secondly, Colesca (2015) argues that empirical evidence relating to the impact of various factors, such as the quality of e-government service, on trust in e-government is sparse and under-researched.

More recently, many researchers have argued that customer trust (integrity, benevolence and ability) is the central dimension of e-adoption or willingness to use in different contexts such as e-commerce (Eid 2011; Hwang and Kim 2007), in e-banking (Kundu and Datta 2015), online health service (Mou, Shin, and Cohen 2017) and e-shopping (Al-dweeri et al. 2017). But few studies have analysed the role that trust plays in e-government services (Alzahrani, Al-Karaghoul, and Weerakkody 2017). Because of this there is a significant need to determine what the role of citizen' trust is in the context of the use of e-government services from the citizens' perspective, in order to have a clear understanding of this significant factor, and to motivate citizens to use e-government services.

2.3.4 Summary of the theoretical background

This section provided a review of the integrated themes that form the focus of this research: quality of service, expectations and user satisfaction and trust. This literature informs this research. In particular, the author has attempted to show the connection between these themes and how the notion of understanding the expectations of users can contribute to a novel understanding of e-government use. Table 2.5 links each of the themes to the research questions, along with the key theories and theoretical background. Informed by these streams of literature, the research will attempt to answer the research questions.

Research questions	Key theoretical background	How it informs the research	Reference
RQ1: Perceptions of quality of service	E-service quality, quality e-government service	Identify the key e-service quality measures and dimension to understand the user perspective about the quality of e-service such as SERVQUAL model.	Parasuraman et al. (1988)
	Quality e-government service	Review of how research in e-government measures the quality of e-government service based on citizens' perspectives.	Alanezi, Kamil, and Basri (2010)
RQ2: Citizen' trust and e-government	Theories of expectation and spillover	Beliefs or predictions about quality e-government service determine how citizens formed their expectation before or after their transaction. Those e-government users' (citizens') evaluation of the service they have used is affected by their interaction with the other e-services they used; the spillover effect of using another ICT causes either high expectations of e-government service performance or low expectations.	(Cadotte, Woodruff, and Jenkins 1987) and (Oliver, 1980)
	Theories of acceptance, satisfaction and use	Social influence in which an individual's opinions influence the belief of others about the system, to determine if he or she should use the new system. Facilitating conditions in which an individual is confident that an organisational and technical infrastructure is available to support system use. Understanding how citizen satisfaction impacts on citizens' perspectives about the quality of e-government services. This model proposes a holistic assessment framework for e-government services evaluation based simultaneously on benefits, costs, and risks to users of using e-government services.	Venkatesh et al. (2003); Chiu & Wang (2008); (Zaidi and Qteishat 2012); Osman et al., (2011).
RQ3: Citizen' trust and e-government	Trust	While several studies have shown that trust is important, few studies have analysed in detail how trust plays a role in the use of e-government services.	(Alzahrani, Al-Karaghoul, and Weerakkody 2017)

Table 2.5: Summary of theoretical background

CHAPTER 3: RESEARCH DESIGN AND METHOD

The presentation of this research design and method chapter is structured in five sections. The first section (3.1) outlines the research design. The data collection is discussed in the second section (3.2), which is followed by an explanation about the participant profile. The final section (3.3) explains the data analysis approach.

3.1 Research design

The design of this research falls within the interpretive paradigm (Walsham 1995) to understand the social world and capture the voice and experiences of the study participants. “Interpretive methods of research start from the position that our knowledge of reality, including the domain of human action, is a social construction by human actors and that this applies equally to researchers. Thus, there is no objective reality which can be discovered by researchers and replicated by others, in contrast to the assumptions of positivist science” (Walsham 1995, p.376).

Collins (1998) argues that to make a real contribution to the study and practice of change, one should adopt an interpretive approach that highlights relevant issues surrounding change, attitude and behaviour of individuals. The interpretive approach focuses on understanding concepts via interpretation and contributes in the process of building theory rather than testing, explaining or predicting assumptions (Harrison and Reilly 2011; Saunders, Lewis, and Thornhill 2009; Tadajewski 2006). The interpretive approach supports the ontological assumption that the nature of reality is socially constructed (Tadajewski 2006). Along these lines, the study is inductive because the purpose is to gain an understanding and interpretation of e-government service quality and how quality expectations are derived.

In line with the interpretive approach, a qualitative method was adopted. Qualitative research methods are designed to assist the investigator to understand what people say and do, and the reasons behind their decisions and actions (Myers 2009). Page and Meyer (2003, p. 18) stated: “The qualitative approach can be conceptualised as a focus on words and feelings, the quality of an event or experience”. Hence qualitative research should be conducted under defined contexts to understand people’s motivations, their actions and reasons and their beliefs in depth within that context (Myers 2009). “Some decisions and actions could be understood in context – it is the context that helps to ‘explain’ why someone acted as they did” (Myers 2009, p. 5). Therefore, the emphasis on qualitative data such as interviews and participant observation is suitable to investigate social phenomena (Myers & Avison 2002 p.33).

Further “Qualitative research studies things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meaning people bring to them” (Denzin and Lincoln 1998). They further stress that “Qualitative research involves the studied use and collection of a variety of empirical materials including personal experience and interview”. Moreover, (Alvesson 1996) highlights qualitative research as being based on its increased possibility for broad and rich descriptions and its sensitivity for ideas and meanings for the individual concerned.

Specifically, qualitative research provides depth and nuance by recording attitudes, feelings and behaviour. Qualitative methods such as interviews offer participants a chance to explain and discuss what they think about the quality of e-government services and its impact on citizens’ trust. It creates openness through encouraging people to expand on their responses, opening up new topic areas not

initially considered, and it stimulates people's individual experiences. Furthermore, a detailed picture can be built up about why people act in certain ways and their feelings about these actions.

3.2 Data collection

3.2.1 Participant recruitment method

Recruitment of the participants was undertaken by snowball technique (Goodman 1961). This involved inviting an initial small group of participants via email that are part of the researcher network and asking them to refer the researcher to further possible interviewees. The researcher actively monitored the sample to ensure that there was a cross section from Jordanian society (for example, ages and location) as well as regular and non-regular users. Regular users of the e-government services (used it frequently over the last 2 years) or non-regular user (have used the e-government services in the past and or have discarded using it). A justification for the selection of Jordan was given in section 1.7.

The main advantages of snowball sampling, as (Dudovskiy 2016) argues, include the possibility of collecting primary data in a cost-effective manner. Studies with snowball sampling can be completed in a short duration of time and require very little planning to start primary data collection processes.

There were a number of challenges faced through the data collection stage, such as there being a limited number of e-government service users among citizens, which many researchers raised as caused difficulties in finding e-government users for the research. As a result, out of 66 contacted persons, only 20 were suitable participants. Also, the limited knowledge of potential participants about the concept of e-government services required the researcher to explain the meaning of each important concept such as quality of e-government service, trust, e-government and use of e-government. The translation from English to Arabic was another challenge because sometimes it was difficult to get the exact meaning of the ideas in the interview questions, which required the researcher to spend more time and effort in explaining the meaning of the questions in Arabic as much as possible.

3.2.2 Interviews

Data collection commenced in October 2017 and was completed in April 2018. Data were collected from 20 interviews with e-government service users from different geographical areas of Jordan. Interview questions gave participants the opportunity to respond in their own words, rather than forcing them to choose from fixed responses, as in quantitative methods. Interviews have the ability to evoke responses that are meaningful and culturally salient to the participant, unanticipated by the researcher (Pratiwi and Nur Hidayat 2017).

The advantages of interviews, as a number of researchers argue (Neuman 2002; Cavana, Delahaye, and Sekaran 2001; Williamson 2002), are that they generally provide much richer data than questionnaires. Also they allow for the adaptation of questions as necessary and this flexibility permits the follow up of interesting leads. Especially, the semi-structured interviews used in this study allow for flexibility in questioning and the follow up of interesting leads, and for the clarification of questions.

Before conducting the interviews, each participant was provided with a participant information and consent form (PICF) outlining the aims of the study and stating that they remained anonymous at all

times. The interview commenced only after they formally agreed to participate. Interviews took place via Skype. Interviews were conducted in Arabic and later translated into English.

In this research, Skype interviews were conducted because it was logistically impracticable to perform interviews face-to-face and it was not feasible to go to Jordan at this stage. As noted by scholars the primary benefit of using telephone (or Skype) as a means of interviewing is the low cost and the ability to reach a wide geographical area in limited time. In addition, participants may feel more comfortable with the relative anonymity of a telephone interview and provide greater insights (Cavana, Delahaye, and Sekaran 2001). Even so, the interviewer was not able to observe non-verbal reactions. Also, some people have negative views of telephone interviews given the numerous telemarketing calls that they receive (Cavana, Delahaye, and Sekaran 2001).

Although an interview may take different structures, it is generally accepted that there are three main approaches. They are, structured, semi-structured, and unstructured interviews (Williamson 2002). The semi-structured interview approach was employed in this research. This involves commencing interaction as an unstructured interview such as presenting the primary overall question, and then focusing on managing the process by using certain questions to elicit information. When the information appears to be drying up, the interviewer moves to a set of pre-planned questions (Cavana, Delahaye, and Sekaran 2001).

The interviews focused on e-government service users, including regular and non-regular users. To ensure cultural sensitivity was met, a pilot of the questions was undertaken in Jordan (with a citizen and academic expert in the area). The research has been designed to consider the cultural context and values in Jordan. The student researcher is a Jordanian national, and the supervision team has experience undertaking research in the region. Participants were asked the following high-level themes:

- (1) Their perception about quality of e-government services;
- (2) How e-government services respond while transacting;
- (3) What is their experience while searching/finding information in government websites and how they ascertain authenticity of the content;
- (4) What is their experience while transacting with government websites;
- (5) What is their experience while participating with government through government websites;
- (6) How e-government has changed their behaviour in availing themselves of government services and whether there was any impact on their lifestyle;
- (7) How their experience compares with other online service such as social media, e-banking, e-shopping;
- (8) How their use of other online service impacts on their perspective about the quality of e-government services;
- (9) How the improved quality of e-government service impacts citizen's trust.

Interviews were not recorded; however thorough notes were taken and used to reconstruct the interviews immediately following the interview. Interviews were undertaken in both English and Arabic depending on the preference of the interviewee. Where undertaken in Arabic, the interview

was reconstructed in English that for this reason the language does not flow as in normal English conversation. The researcher is an Arabic and English speaker, making this possible. Also, undertaking interviews in both languages made the translation process straightforward. Where help was needed, the researcher sought the help of a professional translator for support.

Interviews lasted between 30 minutes and 50 minutes. In total 27 pages of data (from reconstructed interviews) were collected. Because of the small volume of interviews, the data was analysed by hand on paper. The analysis processes started alongside the data collection. In other words, each interview was reconstructed and analysed after the data was collected.

3.2.3 Participants' profiles

The participants for this study were Jordanian citizens. A total of 14 were male and 6 were female, 8 of who live in the capital city of Jordan (Amman). Their age ranges from 20 to 66. The following Table 3.2 provides essential information about the participants and their e-government and other e-service use experience. The rows provide details of each participant, while the columns provide the participant's age, gender, how many years they have been using e-government service, and their level of education, and also provide information about their use of e-government services and what type of service the participant use. The last columns provide information about their use of other e-service, to help understanding as to the how use other e-services impacts their use of e-government.

Each column provides information to help understand the participant's context and to understand and answer the research questions, such as from (# years of use e-government column) the reader could understand that most of participants almost newly start use e-government service because all of the participants start use e-government service 2 years or less than 2 years.

Also, when reviewing the education level, readers will note that most of higher educated people use e-government service less than high-school educated people; also readers can note that the new websites are used more among participants than the old website. For more information, see Chapter 4.

Inter-view Ee	Age	M/ F	Region	Year of use e- gover n ment	Use of e- government	Education level	Type of e- government service use	Other e- service
INT 1	45	M	Amman	1	Amman website/ check if there is traffic fund.	High school	Informational	Social media/ e-banking
INT 2	20	F	Zarqaa	2	Education website/get high school result.	High school	Informational	Social media
INT 3	30	M	Amman	1	Jordan Post/ receive post from overseas.	Undergraduate	Transactional	Social media/ e-banking
INT 4	29	M	Amman	2	Ministry of education website for a public- school teacher to information need about his income.	Undergraduate	Informational	Social media/ e-banking
INT 5	45	F	Madaba	1	Social security corporation/ to get social security payment.	High school	Transactional	Social media
INT6	28	M	Zarqaa	1	Jordanian Electric Power Company/ get information about the power failure.	High school	Informational.	Social media/ e-banking
INT7	29	F	Salt	2	Ministry of labour website/ Inquiry about labour laws. Buy bills online.	Undergraduate	Informational	Social media/ e-banking/ e-shopping
INT8	33	M	Salt	2	Social security corporation/paid for a social security service online.	Postgraduate	Transactional	Social media/ e-banking/ e-shopping
INT9	26	F	Amman	1	Ministry of labour website/ to get work permits for a private company. Pay tax online and bills.	Undergraduate	Transactional	Social media/ e-banking/ e-shopping
INT10	27	F	Zarqaa	1	Civil Service Bureau website/ add her experience to her CV to get the job.	Undergraduate	Transactional	Social media/ e-banking/ e-shopping
INT11	30	M	Zarqaa	1	Jordan embassy/ try to renew passport while he was overseas.	Postgraduate	Transactional	Social media/ e-banking/ e-shopping
INT12	24	M	Irbid	1	Ministry of	Undergraduate	Transactional	Social

					Justice/ to get no criminal record.			media/ e-banking
INT13	24	F	Salt	2	OpenEMIS Core/teacher inserts student data. Get information about health from health government website.	Undergraduate	Transactional	Social media/ e-banking/ e-shopping
INT 14	39	M	Zrqaa	1	Gov.jo/ to Pay electricity bill. Pay tax online too.	Postgraduate	Transactional	Social media/ e-banking
INT 15	23	M	Irbid	1	Ehs.com.jo I use this application to check my health information/ informational	Undergraduate	Informational	Social media
INT 16	21	M	Amman	1	Denarak application/university student to pay his fees.	Undergraduate	Transactional	Social media
INT 17	45	M	Amman	1	Da3mak application/cash support from the government.	High school	Transactional	Social media/ e-banking
INT 18	33	M	Amman	1	Health Ministry website / to insert patient information.	Undergraduate	Transactional	Social media/ e-banking
INT 19	45	M	Amman	1	Committee of the Central Wholesale Market/ fruit and vegetable shop dealer to check the prices of his fruit and vegetable.	High school	Informational	Social media
INT 20	47	M	Zarqaa	3	Income and Sales Tax Department/ to pay the income tax online.	High school	Transactional	Social media/ e-banking / e-shopping

Table 3.1 participants' profile

3.2.4 Website information

To complement the interviews the researcher visited the governmental website used by participant to understand the use of e-government services and get some significant information about the governmental website to help of understand the participant use of the governmental website. These include categories of governmental services provided, year of governmental website launched, and type of e-government services (informational, interactional, and transactional).

Table 3.1 contains the information about e-government services used by the interviewees, and which types of service available online. The information reflects that while some informational e-government service such as www.csb.gov.jo was launched in 1996, other services such as mol.gov.jo were launched in 2018. In general, only 7 websites from different ministries provide all types of e-government service (informational, interactional and transactional service) while 4 websites from some ministries provide only informational and interactional service and 5 websites provide only information services, which means not all e-government services in Jordan provide citizens with all the services and information needed for all types of governmental services.

No.	Website	Govern- ment agency	Main audience	Purpose	Function	Year of launch
1	www.ammancity.gov.jo	Amman Municipality	Citizens	Provide services related to environmental, health, organisational and infrastructure services dimensions for citizens.	Forms and information	2001
2	eduwave.elearning.jo	The Ministry of Education	Students	Provide public high school student result and information about the student.	Information	2012
3	jordanpost.com.jo	Ministry of Communications	Citizen and government employee	To get information about Mailing Services and commemorative stamps.	Information and forms	2017
4	emis.moe.gov.jo	The Ministry of Education	Ministry employee and teachers	Provide information and forms help the teacher to access and arrange student information in public school.	Information and interactional	2018
5	www.ssc.gov.jo	Social Security Corporation	Citizen and government employees	Provide service to the cooperative insurance system designed to protect people socially and	Information, interactional and transactional.	2014

				economically.		
6	www.memr.gov.jo	Ministry of Energy and Mineral Resources	an employee of ministry and citizen	Give information about the energy and mineral resources in Jordan.	Information	2015
7	www.mol.gov.jo	Ministry of Labour	Government employees and citizen	Provide governmental information about Work permits and Registered Institutions.	Information and forms	2018
8	www.csb.gov.jo	Civil Service Bureau for King Abdullah	For graduate student and government employees	Provide information about competitive of getting a government job, Online Recruitment Application Management information system Unified Human Resources.	Information, interactional and transactional	1996
9	www.jordan.gov.jo *	the Prime Minister	Citizen	Paying taxes and get renew the ID and Passport.	Information interactional and transactional	2017
10	www.moj.gov.jo *	Ministry of justice	Citizen and ministry employees	Requests for denunciation return and amnesty. Inquiry about lawyers and issues and no criminal record.	Information interactional and transactional	2015
11	www.moe.gov.jo *	Ministry of education	Governmental school teacher	Provide service related to public education for students, parents, teachers and ministry employees.	Information, interactional and transactional	2015
12	www.Ehs.com.jo*	Ministry of health	Patient and health medical staff-	This website provides health information about the citizen.	Information, transactional and interactional	2009

				Doctors and nurses insert health information about the patient		
13	Denarak.com *	The central bank of Jordan	Citizen does not have a bank account-	Make virtually any financial transaction on your mobile phone, without the need for a bank account.	Information, transactional	2017
14	Da3mak.jo	Ministry of finance	Low-income citizen	Provide financial support for poor citizens.	Information	2017
15	www.awm.gov.jo	Amman Municipality Committee	For fruit and vegetable dealer	Provide the market price market of fruit and vegetables for dealers	Information	2012

Table 3.2 Information about the website used by the interviewee (* Arabic and English language)

3.2.5 Ethical processes

Data were collected after an ethics application was submitted to the Human Research Ethics Subcommittee in the Business College of RMIT University on September 21, 2017 and approved on October 30, 2017 with Ref: Ethics Appl. 0000021077. At April 2018 complete the data collection stage.

3.3 Data analysis

In the qualitative approach, the researcher typically ends up with varied and rich data (Myers 2009). Therefore, it can be difficult to structure and summarise the collected data and all observations (Collis & Hussey 2003). A key concern in analysing qualitative data is how to organise, understand and manage the volume of data (Holt 2008).

3.3.1 Analysis of interviewee data

The data analysis of the interviews was guided by Miles and Huberman's (1994) process as outlined in Figure 3.1. This involved analysing the data as soon as possible (during data collection), coding the data and grouping codes into categories, writing summaries of the findings, and using the summaries to construct generalizations until the generalizations are sufficiently robust to confront existing theories or construct a new theory.

In the first step the interview data and notes were organised in preparation for analysis. In step two the data was referenced accordingly, this involved creating a table of the individual e-government services used (see Table 3.2). In the third step the data was manually coded and summaries of the

codes and key quotes were kept in tables. Step four involved understanding how the codes related to one another and consolidating the codes into categories. In step five the categories were used to create an analytical narrative and address the research questions. Step six and seven involved attempting to build generalisations from the data and link to the literature. While Figure 3.1 presents the analysis as a linear process, the process was much more iterative and dynamic in practice and involved going back between the data and literature. The findings provide an analytical discussion drawing on the steps described. It also draws heavily on interview quotes and statistics to provide an explanatory analysis.

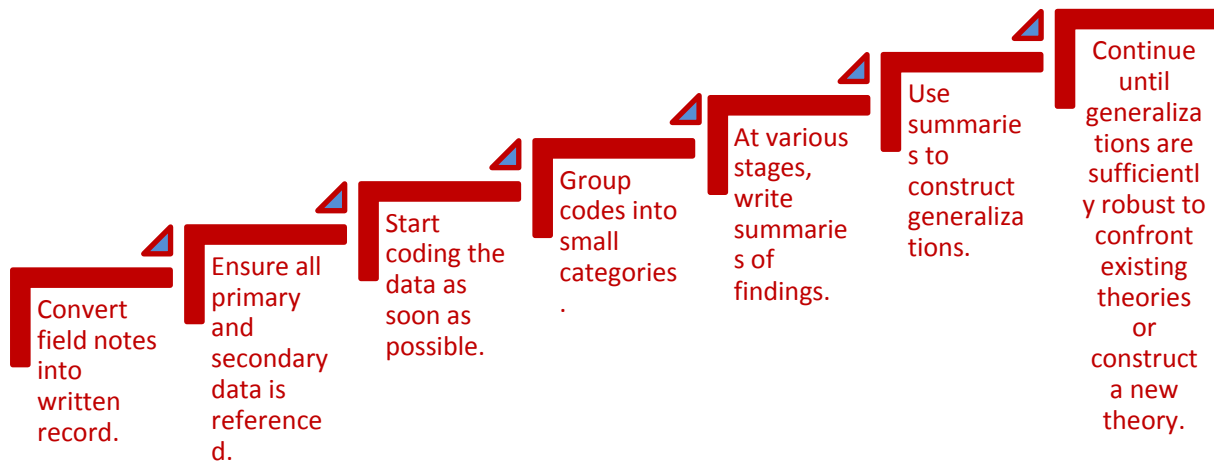


Figure 3.1. The data analysis guided by Miles & Huberman (1994) stages and manual coding for interviews.

3.3.2 Analysis of e-government websites

The analysis of the governmental website used by the participants helped to understand the use of e-government services and their functions. This involved visiting each of the websites and understanding the extent of its informational, interactional and transaction functions. The researcher also tried to complete various tasks to gain a users' perspective on the functions of the websites. In addition, the government websites were visited to verify the comments of the interviewees in terms of what they said they could or could not do. This data was collected in note form and using tables. Table 3.2 (section 3.2.4) summarises the functions, main audience, purpose and the year it was launched. The purpose of this analysis was not to perform usability tests or website feature analysis, but rather to provide greater context for the interview data.

3.4 Summary

This section provided a presentation of this research design and method to understand the participants' expectation about the quality of e-government service and how it is formed. It also provides an explanation about the data collection stage in terms of the participant recruitment method, participants' profile, and how the secondary data (website information) help the researcher to understand the quality of e-government service in Jordan. It also explained the data analysis procedures.

CHAPTER 4 DATA ANALYSIS

4.1 Introduction

This chapter presents the data analysis. It relies primarily on data from the interviews, which is complemented with an analysis of e-government websites in Jordan to provide an understanding of the online services offered, and referred to by the interviewees. In line with the qualitative nature of the research, this chapter relies on interview quotes to provide an analytical description, and address the research questions.

The chapter is organised in four sections. First, it begins by providing information about the use of e-government services in Jordan. Second, it discusses the interviewees' views on the quality of e-government service in Jordan. Third, it explains how citizens' expectations of e-government services quality are formed, by examining their use of other online services. The last section turns to examining the interviewee perspectives on the relationship between trust and quality of service.

4.2 The use of e-government services

Before discussing the analysis on use of e-government, it merits revisiting the key points on e-government service in Jordan. The e-government initiative in Jordan seeks to achieve greater efficiency in government service provision by using new online services that reshape and facilitate interactions to improve government's performance and the democratic life of its citizens (Bataineh et al. 2016). Many researchers agree that Jordan is one of the leading countries regionally regarding national IT infrastructure available for online services. Also, the population's motivation and ability to conduct online transactions is regarded as one of the highest in the region (Alawneh and Hattab 2008). Examples of e-government services include some of the following: allowing citizens to get no criminal record, renew commercial and professional certification at the Ministry of Industry and Trade, renew business licenses, and enquire about and pay traffic tickets (Al-Jamal and Abu-Shanab 2015). Even though more than 90 services are offered electronically to citizens and businesses, still many Jordanian citizens are unaware of the full suite of e-government services available and how to use them. Al-Yaseen, et al. (2015) found that there is a low level of knowledge of the types of e-government services offered in Jordan. Moreover, in Al-Yaseen, et al. (2015) study more than 85% of the participants had never logged in to an e-government website or had obtained any information online. This suggests there is a significant need to understand citizens' perspectives about e-government services in Jordan to increase citizen use and adoption of e-government services. There are also issues around trust and quality of e-government services in Jordan (Abu-Shanab and Al-Azzam 2012) as noted in Section 1.7.

The participants reported using a range of governmental services online and offline. They are described here. Table 4.1 summarises the e-government services used by the interviewees and provides some description of its purpose, function and history. Column 1 refers to the individual interviewee, column 2 refers to the number of years they used e-government, and column 3 refers to the main e-government services they used. Column 4 categorises the interviewees' main type of use as information, interactional and transactional. Column 5 refers to how frequently they use e-government for example rarely (less than once in three months) or frequently (more than once a month). Column 6 includes details of the interviewees' use of other online services such as social media, e-banking and e-commerce.

Interviewee	No. of years	E-government services used	Category of use	Frequency of use	Main other e-services used
INT 1	1	Amman website/ check if there is traffic fine	Informational	Rarely	Social media/ e-banking
INT 2	2	Education website/get high school result.	Informational	Rarely	Social media
INT 3	1	Jordan Post/ receive post from overseas.	Transactional	Rarely	Social media/ e-banking
INT 4	2	Ministry of education website for a public school teacher to information need about his income.	Informational	Rarely	Social media/ e-banking
INT 5	1	Social security corporation/ to get social security payment.	Transactional.	Rarely	Social media
INT 6	1	Jordanian Electric Power Company/ get information about the power failure.	Informational.	Rarely	Social media/ e-banking
INT 7	2	Ministry of labour website/ Inquiry about labour laws. Buy bills online.	Informational.	Frequently	Social media/ e-banking/ e-shopping
INT 8	2	Social security corporation/paid for a social security service online.	Transactional.	Frequently	Social media/ e-banking/ e-shopping
INT 9	1	Ministry of Labour website/ to get work permits for a private company. Pay tax online and bills.	Transactional.	Frequently	Social media/ e-banking/ e-shopping
INT 10	1	Civil Service Bureau website/ add her experience to her CV to get the job.	Transactional.	Rarely	Social media/ e-banking/ e-shopping
INT 11	1	Jordan Embassy/ try to renew passport while he was overseas.	Transactional.	Rarely	Social media/e-banking / e-shopping
INT 12	1	Ministry of Justice/ to get no criminal record.	Transactional.	Rarely	Social media/ e-banking
INT 13	2	Open EMIS Core/teacher inserts student data. Get information about health from health government website.	Transactional.	Frequently	Social media/ e-banking/ e-shopping
INT 14	1	Gov.jo/ to pay electricity bill. Pay tax online too.	Transactional.	Frequently	Social media/ e-banking

INT 15	1	Ehs.com.jo I use this application to check my health information/informational	Informational	Frequently	Social media
INT16	1	Denarak application/university student to pay his fees.	Transactional.	Frequently	Social media.
INT17	1	Da3mak application/cash support from the government.	Transactional.	Frequently	Social media/e-banking.
INT18	1	Health Ministry website / to insert patient information.	Transactional.	Frequently	Social media/e-banking.
INT19	1	Committee of the Central Wholesale Market/ fruit and vegetable shop dealer to check the prices of his fruit and vegetable.	Informational.	Frequently	Social media.
INT20	3	Income and Sales Tax Department/ to pay the income tax online	Transactional.	Frequently	Social media/e-banking /e-shopping.

Table 4.1 Use of e-government by interviewees

Of the sample of participants 2 used the same health e-government website service (www.ehs.com.jo) from the Health Ministry. This service provides health information for citizens and health medical staff, and allows for medical staff to insert patient health information to make their work easier. Users of this website are mostly medical staff rather than other citizens. The e-government service in Jordan provides information on a range of topics including education, health, employment and social services, but as noted in Table 4.1 there are many educational e-government websites and the most frequently used are the educational services such as emis.gov.jo, which provides services for teachers and parents to get information about students.

Also, ‘eduwave’ is another educational website that is frequently used among citizens to provide students with their high school result online, and other information. moe.gov.jo provides a service related to public education for students, parents and ministry employees. It should be noted that the educational websites most frequently used among participants were informational (discussed in Section 4.3); However, some interviewees, such as INT 4, hoped the website would provide transactional services.

“I use Emis to insert and get student information. Emis website makes our job more accessible for student data at the same time will be great if we could connect all student information from Health Ministry to get student health information without connecting with Health Ministry.” INT 4

As this participant explained, there is a need to improve the Emis website to a transactional service by connecting the Education Ministry with the Health Ministry. For moe.gov.jo, INT 2 hoped it could provide an online service to enrol kids to school online.

E-government services in Jordan have offered many financial service websites since 2017 and provide helpful services for citizens. An example of this is Jordan.gov.jo, a new website to help citizens pay their taxes and bills online. Four participants use this website and they were satisfied with it; an example comment being INT 14:

"I am using Gov.jo to pay electricity bill. Pay tax online too, I am satisfied but the e-government service not easy to get access, which makes the limited use of this service among citizens." INT 14

This participant is a frequent user of this website, but has an issue with accessibility of the service because there is limited awareness about the use of e-government services in Jordan.

There is a website that provides helpful financial information from the Ministry of Finance to provide citizens with a limited income with information about the support fees provided by the government; this website launched in 2017 at Da3mak.gov.jo. Moreover, a website launched after 2017 by the Amman municipality committee provides fruit and vegetable dealers information about the price market. INT 19 explained.

"I am using Committee of the Central Wholesale Market for fruit and vegetable shop dealer to check the prices of fruit and vegetable its really helpful website and I hope if we could make all governmental transaction online rather than offline because mostly Jordanian citizen are still use offline government service." INT 19

The above quote shows that the website provided the use with helpful information about the prices, but INT 19 hoped the website would be transactional online rather than offline.

Other main types of e-government services are for social services; there are many governmental social websites providing all types of services (informational, transactional, interactional). There are five social websites used by participants in this study, and there is a different viewpoint about each website. For example, the Social Security Corporation website provides services for a cooperative insurance system designed to protect people socially and economically, and there are two different experiences among participants.

Also, social services such as www.moj.gov.jo from the Ministry of Justice provides requests for denunciation return and amnesty, as well as inquiries about lawyers, issues, help with criminal records and information for Ministry employees.

INT 5 tried to use the social security website to enrol and get a social security payment but the task was not complete because it is very hard to follow the website instruction; steps of the transaction are not understandable, and it takes a long time to understand how to use it to enrol in social security. INT 8 had another viewpoint about the same website (the Social Security Corporation).

"I am using an e-government service Social Security Corporation to pay for a social security service online, I am satisfied with the quality of social e-government service but the quality should improve through giving a citizen chance to express her need and want also try to satisfy their requirement in a simple way regards their situation." INT 8

This participant had a satisfactory experience with the social e-government service website unlike INT 5, which means the same website can provide a satisfactory experience or unsatisfactory experience based on participants' experience and knowledge about how to use the e-government service, and based on the e-government service type.

Meanwhile there are many new e-government websites that provide many types of e-government service for many ministries. GOV.jo is a new website launched in 2017 that provides many government services such as employment, financial, business etc., and shows that the government in Jordan is trying to improve the services to provide citizens with different types of helpful information and services.

All of the participants use offline governmental service as the main way to make their governmental transactions, even though there are many e-government websites that provide most of the governmental transactions.

Table 4.1 contains the information needed about websites used by the interviewees, and which type of service is available online. The information reflects the use of e-government services such as the number of visitors and the year launched. The reader should note that there is an old website – www.csb.gov.jo launched in 1996 – but the number of visits is limited, and INT 10 who used this website was dissatisfied with the services because the participant tried to insert more information to his profile but it could not be done.

At the same time, there is a new website – mol.gov.jo launched 2018 – and the number of visits is high, and those citizens who use this website to make an inquiry about the governmental information for work permits are satisfied with it.

In general, only 7 websites from different ministries provide all types of e-government service (informational, interactional and transactional service) while 4 websites from some ministries provide only informational and interactional services and 5 website provide only informational services, which means the e-government service in Jordan does not provide citizens with all services and information needed for all types of governmental services.

4.2.1 Categorisation of use

For the purpose of analysis, e-government services can be categorised into three dimensions: informational, transactional and interactional uses (Osman et al. 2014). Informational e-government services provide information content and do not require any interaction or authentication in order to access the e-service.

Using interactive e-government services requires filling-out forms and often authentication, as well as engaging with agency officials, and/or requesting specific services and special appointments. This category includes e-government services such as online inquiry for consumer complaints.

Transactional e-government services typically require authentication and allow users to customise the content of the e-services, conduct financial transactions and pay online to receive e-government services including student education information; and my personal page (Osman et al. 2014). See Section 1.3 for details of the three services.

Based on the analysis of e-government websites used by the participants only 7 websites from different ministries provide all types of e-government service (informational, interactional and transactional service), while 4 websites from some ministries provide only informational and interactional service and 5 websites used in this research provide only informational services.

The interview results indicate that while 13 participants reported use of transactional e-government services, 7 participants reported using information services and only 3 reported using interactional services respectively. Each of these is discussed here in detail.

Informational e-government service

An informational service provides public information content only, and does not require any authentication in order to access the e-government service or interactive/transaction features. Out of the participants, there were 7 that used only informational services, such as INT 7 who only used the "Ministry of Labour website to review about labour laws". The main reason for not going beyond the use of informational services is due to both the limitations of the e-government service design and also because of lack of awareness or unwillingness to use the additional services. For example, a participant that uses a website to find out about labour laws only does so because they do not realise that the website provides interactional and transactional services to help them complete additional tasks. Poor service experience and perceived complexity of e-government services are also other reasons why some citizens opted for informational services only. For example, INT 1 explained:

"I rarely use e-government because I don't have a lot of experience with technology. Although I am using e-banking, it is easy to make money transaction while the e-government service needs many steps to process a transaction." INT 1

Interviewee 1 compared her experience of the usability of e-banking, which is easy, simple and direct to make transactions, with that of e-government (for example paying a traffic fine). She found that the e-government system that was put in place to pay for traffic offences is difficult to use and needs many steps to complete a transaction.

Transactional e-government services

Transactional e-government services often require authentication by the user for transacting with agency officials and making payments, and/or requesting specific services. There were 13 interviewees that used transactional services. As an example, INT 14 explained they used Gov.jo to pay electricity and water bills and said.

"I am satisfied with service but the e-government website not accessible or use among citizen because there is limited awareness about how to use it and the benefit gain from using it. Also the hard of use e-government service unlike many of another online service could do it over the smart phone." INT 14

Arguing the reasons for limited use of transactional e-government services by citizens, like the limited awareness of e-government services and benefits, this participant tries to compare the service with other online services, and how other services were accessible over the smart phone so were easier than the e-government service.

In total, only 5 participants were satisfied with the transactional service and had no negative comments about the e-government service which was available from 2017. INT 18 used the Health Ministry website to insert patient information – this participant found the experience easy and quick and explained that they wished all citizens knew about this application because it provides them with helpful information about their health, with limited time and effort. Likewise, INT 8 commented on their experience with the social security service:

"I am using an e-government service Social Security Corporation to pay for a social security service and paying bills online, I am satisfied with the quality of e-government service, but there is limited of awareness about the e-government among citizen." INT 8

While this quote indicates satisfaction, it also demonstrates some concerns about limited awareness on the benefits of e-government service.

Interactional e-government services

Interactional e-government service requires authentication for filling out forms. There were 3 participants that used interactional services, even though all of the participants use e-government websites that offered interactional services, such as INT 13 who used an OpenEMIS Core as teacher inserts student data and printing forms related to student and teacher such as absent of leave form. INT 13 explained:

"I am happy with OpenEMIS Core website it's easy to use and save our time and effort. Because I have used to fill form about my leave of absent." INT 13

In addition, INT 9 used the Ministry of Labour website to get work permits for a private company. INT 9 explained:

"there is a limited number of citizen know about this service because based of people I know no one recognizes that he could make the governmental interactional online." INT 9

This participant's explanation for the limited use of interactional e-government services is limited awareness of the e-government services and the benefits of it.

4.2.2 Frequency of use

Participants were asked to report how often they use e-government services. The results show that 11 of the interviewees use e-government services more than once a month and 9 use it rarely (less than once in three months) as noted in Table 4.1.

Most of the frequent users of transactional e-government services have either undergraduate or above educational level, which means frequent users of e-government services have a good education level. This is consistent with many interviewees' comments that e-government users in Jordan need to have good experience or knowledge of using technology to get the benefit of e-government services.

The participants that rarely use e-government services identify inflexibility and incompatibility as the main reasons that affect the frequency of use; for example, INT 2.

"The e-government service exists but it's not familiar using e-government service in Jordan because it's not flexible, suitable for citizen ability and no many people know about it." INT 2

The participant here tries to explain that Jordanian citizens are unfamiliar with e-government services because there are a limited number of people who know about them and they find it hard to complete the governmental transactions online because the services are not fixable for citizen's use, and not suitable for citizens. This suggests there is a significant need for the government to understand the needs of citizens if it wants the Jordanian citizens to become frequent users of e-government services.

INT 12 added that "difficult to use" is the reason behind the limited use of e-government services in Jordan. Compared with other online services such as social media and e-shopping, INT 5 showed:

"previously, expect that e-government services are easy and simple like any other website I used, but I find it not easy to use and the website too slow moreover I want to use the governmental website frequently because I needed every month so I hope if there is employee help me to know how I should use this website will really help me and save my time and effort." INT 5

The participant tried to explain there is a need to use e-government services every month but there are many difficulties in the process, such as it being hard to use, slow websites and limited knowledge of using the services. This meant the participant rarely used it, thus the participant suggested the solution of providing a governmental employee to help citizens get e-government service benefits.

Out of the participants that frequently use e-government, 4 participants (INT 13, INT 14, INT 18, and INT 19) agreed that frequent use of e-government directly impacts on citizen's trust, such as INT 14 who argued "the quality of e-government service make the citizen frequently use of e-government and then trust it". In other words, frequent use engenders trust in the service. The participant clarifies two noteworthy interrelated points in this study: (i) that if the quality of e-government service is high it will make the citizen frequently use e-government services, (ii) that frequency of use makes citizens trust using e-government service.

In addition to asking participants about their use of e-government, they were also asked about their use of government services offline. Interestingly, all interviewees used offline government services more than online services, even though in some cases e-government service saved the participants time and effort.

As other researchers have found (for example Al-Yassen et al. 2015), offline governmental services are the main method of interaction between government and citizens, and some citizens feel offline is more accurate and secure than online, especially regarding money transactions such as paying bills or tax.

4.2.3 Satisfaction of use

Participants were asked about their level of satisfaction with the e-government service used. The quality of service plays an essential role in achieving important outcomes including trust, satisfaction and loyalty (Ladhari 2010; Zhao et al. 2012). Also, quality of e-government services can be evaluated by user satisfaction and intention of future use (Bertot et al. 2008). In this study, 5 interviewees were satisfied with services without any reservations on the quality of e-government services and they plan to continue to use e-government services in the future see Table 4.2. For example, INT 12 explained:

"I used Ministry of Justice to get no criminal record, I am very satisfied with the quality of services and I was asked many friends how I could do this transaction most of them suggest me to go to the ministry building and make it offline only one of them suggest me to read about it online and after I try to do it I find that it possible to make it online, so hope all governmental transaction becomes online and all Jordanian know about the e-government service and use it." INT 12

This participant advises that the social with e-government service was available online but limited people knew about it. When he tried the website, he found that he could do his transaction online and so he plans to use it in future, which acts as a trigger for him to use all types of e-government service online.

Overall 9 out of 20 participants are satisfied with their experience with the use of e-government services (see Table 4.2), with some reservations, clarifications and identified limitations about the quality. Four of this group of participants stated that the limited awareness of the e-government service use and benefits are a major issue. That is, they were not aware of the service to begin with and stumbled across it and this in part is linked to how the services are labelled or accessed online. For instance, INT 19, who used informational e-government, services to check the prices of his fruit and vegetables as a dealer.

"I am using Amman Municipality Committee of the Central Wholesale Market fruit and vegetable shop dealer to check the prices of his fruit and vegetable I am satisfied with service, but I hope if we can do all governmental transactional online and all Jordanian know about the e-government service because there is a limited of awareness about the e-government service." INT 19

Likewise, INT 9 agreed that limited awareness is an important problem concerning their use of transaction e-government services:

"I am using the Ministry of Labor website to get work permits for a private company and pay tax online and bills, I am satisfied with the service, but the issue of using e-government service is awareness which mean the e-government should try to make things easy to use, using the simple word and fast browser also understanding with citizen." INT 9

As noted in the quote, this participant explained that the limited awareness about the e-government service is an issue. However, he also suggests that this could be solved through making things easy to use and better labelling.

A linked issue is that participants suggested that citizens are not encouraged to use e-government services, as pointed out by INT 20, concerning their use of a transactional e-government service.

"I am using income and sales tax department to pay the income tax online I am satisfied with the service but the problem that the e-government service is don't help and encourage people to use it, the government should have a strategies to encourages the use of e-government that will make citizen increase their use of e-government service rather than offline government services such as provide discount on bills and tax if the pay it online." INT 20

As this participant said, if the government encourages use of e-government services by providing citizens with the benefits and know how to use e-government services, they will increase the use of e-government services in Jordan and make citizens more satisfied with it.

Slow websites were an issue faced by 2 of this group, who found that when the website was slow it wasted time and effort, which conflicted with the main goal of e-government services to save time and effort, INT 13, talking about a transactional e-government service.

"I am using OpenEMIS (The Ministry of education) core as teacher to inserts student data. I am satisfied with the services, but sometimes the website got the problem and being underdevelopment or very slow." INT 13

To provide a high-quality service, the website should be available without any issue with the website speed INT 15, an informational e-government service user explained:

"I am using Ehs.com.jo application to check my health information and I am satisfied with the quality of service but I hope if the website work better without taking a long time to open the files and don't waste our time, the e-government should take a lesson from technology with other online services how it's easy, simple and how they make us satisfy without spend a lots of time and effort" INT15.

As noted in the quote above, the participant explained that the e-government service website should be a in line with other online services to provide them with a high-quality service without wasted time and effort.

INT 14 was satisfied with the e-government service but faced another issue, which is the accessibility, and how to complete tasks:

"I am using Gov.jo to pay electricity bill. Pay tax online too, I am satisfied but the e-government service not easy to get access, which makes the limited use of this service among citizens" INT14.

The participant here discusses a factor of quality e-government service which is the accessibility, and provided a suggestion on how to increase the access of e-government service through making the website easily accessible each time for the citizens.

Six of the interviewees were dissatisfied with the e-government service (see Table 4.2). Reasons given were that some participants could not complete the transactions online, which in turn meant the participants rarely used the e-government service. This is in line with the argument that the quality of services has a direct, positive effect on citizen satisfaction (Alzahrani, Al-Karaghoul, and Weerakkody 2017).

Other reasons given by the participants for the dissatisfaction were reasons such as difficult to use, and too many steps to complete the transaction. For instance, INT 1 tried to use transactional e-government service but could not and explained:

"using Amman website to check if there is traffic fine, I am dissatisfied for many reasons hard to use and ask me much time to put my card number and I open any browsers to get there, in the same I try to pay the fine online but it was hard and ask many requirement to make it online which is very hard although I'm using e-banking which easily makes the money transaction done." INT 1

As this participant explained, the difficulty of using the services online leads them to use e-government rarely, because there are too many steps to follow.

Providing a different perspective, INT 3 explained their dissatisfaction was linked to inaccurate information provided on the website. In particular, the reason for the unsatisfactory experience in this case was inaccurate information, which makes the participant not trust using e-government services another time.

"I am used Jordan Post website to receive post from overseas and I am dissatisfied with the service for any reason the website provides non-accurate information about my post which make me to not trust use e-government another time also the browser was very slow which make the information unavailable when it needed." INT 3

Three participants were dissatisfied with their e-government service because of issues related to ease of use and because of this now rarely use the website INT 1, INT 5 and INT 6. For instance, INT 5 explained:

"Only once, I used Social Security Corporation website to enrol in Social Security Corporation to get social security payment and dissatisfied with the service because the website dissatisfied my need to enrol because its hard of use and unclear of way of make the transaction done." INT 5

The participant was unable to enrol for a social security service because it was too hard to use and hard to understand the steps required for the transaction to be done, which made the citizen dissatisfied with the service.

Availability of the service in terms of the website being unavailable was a significant issue that made 2 participants dissatisfied with the e-government service. One such was INT 11.

"I used Jordan embassy website try to renew passport while I was overseas but couldn't do it which make me dissatisfied with the quality of e-government service because I try much time to use the website and it was under development for a long time the e-government service should provide citizen useful, helpful services to the citizen in easy, accurate way also satisfy their need and want based on the citizen potential and possibilities." INT 11

This participant tried for a long time to use the e-government website but could not perform the transaction, and so was dissatisfied with the service.

In summary, while several participants were satisfied with the e-government services, it is clear that there are a range of reasons for dissatisfaction. Many of these stem from poor experiences from first encounters with the e-government services, which in turn lead to participants to have lesser engagement with e-government services.

Extent of satisfaction	Interviewees	Reasons	Sample quote
Satisfied	INT 4,12,15,18,20	Easy to use, fit for purpose, save time and effort, available any time, helpful, provide accurate data, accessible for government service, secure service, straightforward.	<i>"I am using Ehs.com.jo application to check my health information and I am satisfied with the quality of service." INT 15</i>
Partially satisfied	INT 2,7,8,9,13,14,17,19,16	Limited awareness about way of use e-government service, advertisement.	<i>"I am using Gov.jo to pay electricity bill. Pay tax online too, I am satisfied but the e-government service not easy to get access, which makes the limited use of this service among citizens." INT 14</i>
Dissatisfied	INT 1,3,5,6,10,11	Hard of use, slow website, does not provide a needed information and services, unavailable.	<i>"using Amman website to check if there is traffic fine, I am dissatisfied for many reasons hard to use and ask me much time to put my card number and I open any browsers to get there, in the same I try to pay the fine online but it was hard and ask many requirement to make it online which is very hard although I'm using e-banking which easily makes the money transaction done." INT 1</i>

Table 4.2 Interviewees satisfaction

4.2.4 Use of other online services

The previous sections focused on participants' use of e-government services. Here the discussion turns to their use of other online services. Interviewees used a range of social media and other ICT (e-banking, e-shopping, social media) regularly. The most common services used were e-banking and shopping (online purchase) – 15 interviewees used e-banking and 7 interviewees used e-banking and e-shopping, and all of them used social media see Table 4.1. The general consensus was that participants had a good experience with these services and found a gap compared to e-government service (the quality of service is explained in more detail in Section 4.4).

Research on the use of online services in Jordan has showed “that most of Jordanian use other online such as social media, e-shopping, e-banking” (Abu Shanab Al-Yaseen, Al-Soud, and Al-Jaghoub, 2015), which is in agreement with that data collected from the interviewees – all interviewees use social media and most of them use e-banking and e-shopping frequently. This is higher than the use of e-government services and in most cases is undertaken daily. For instance, INT 10 explained:

“e-shopping became a daily use in our life “we did almost every day” because it’s become available over smart phone or laptop wherever you want, but the e-government service we couldn’t use it easily as much as e-shopping because it’s hard to use and feel like you need to open your computer and insert your details and then process the transaction you need.” INT 10

Many interviewees tried to explain the reason why citizens use other ICT more than e-government services. The main reason given was that the social media sites are easy to use and considered interesting (which links to hedonistic use). In addition, unlike the e-government websites that required some technical skills, the other services were considered more intuitive for users with less Internet experience.

INT 5 and INT 10 explained that in addition to the difficult use of e-government the other online services were also always available, unlike e-government websites. They also gave the example of e-banking and e-shopping services which in addition to being able to use any time could also easily be used across multiple devices. INT 10 explained that in comparison with their experience with completing transactions on e-government sites, the process of completing transactions on other e-services was ease of use:

“ the website ask may time to fill my details and my car number and open many browsers to get the service and the browser not working most of the time and there is a lot of unneeded information.”

INT 10

4.2.5 Intention to use e-government in the future

In addition to the frequency and satisfaction of use, participants were asked about their intention to use e-government services in the future. It is important to know if citizens plan to use e-government services as this would encourage the quality of e-government services to improve, and to learn how e-government service would satisfy citizens' needs and wants. Most of the interviewees plan to continuously use e-government services in the future; however, at the same time all interviewees still use offline government services as a core approach to completing governmental transactions. Interestingly, given their poor experiences, two of the interviewees explained they would not use e-government services in the future due to issues around usability (explained in more detail in Section 4.2) and because they thought the service was more suitable for younger people who cope better with new technology. Other dissatisfied participants plan to use e-government although they faced many

issues with the quality of service because some of them they do not have any other option, because their governmental job forces them to use the governmental website. Also, some dissatisfied participants plan to use e-government service with the condition that the e-government provide a high quality service to satisfy their needs and wants.

Although the satisfaction and frequency of use of e-government services in one way or another reflects the limited use of e-government service in Jordan, on the whole the participants' intention to use are high, with most participants planning to use e-government services in future. Only two participants plan to not use e-government services in future.

As is noted in the section on the use of other online services (Section 4.2.2) all of the participants use other online services which give citizens high expectations about the quality of e-government service compare with other online services. They have the capability of using online services as they have smartphones and high-speed Internet, which means they have the ability to use e-government service although they face many issues in use. They have an expectation that the e-government services will be improved to cope with their expectation, and with other online services too. This is in line with Alawneh and Hattab (2008) who have argued that the population's motivation and ability to conduct online transactions are regionally one of the highest.

Some interviewees plan to use e-government services with some conditions and improvement in quality, such as INT 4.

"Plan to use e-government service rather than offline service if it's proved a highly secure service with saving our time and effort." INT 4

The participant who decided to not use e-government services anymore were over 45 and their main use of the Internet was for social media. The e-government service did not satisfy their needs and wants, and they faced many issues using it, such as those encountered by INT 5 who tried to use e-government to enrol in Social Security Corporation to get social security payment.

"although I need to use e-government service every month but I will not use it in future because I found its hard and not suitable for me because I feel its need to young person and cope with new technology and know how to use Internet probably. Also, the website dissatisfied what I need and it was very hard to follow many steps to make the transaction." INT 5

This participant agreed that difficulty of use and the many steps required to complete transactions made them feel they were unable to use e-government services in future as e-government services were unsuitable for them.

There are many difficulties that impact on e-government intention to use as interviewees discussed. Seven interviewees argued that a slow website is the main issue of using e-government service which means websites load slowly and need time to process the transaction such as INT 13.

"Spending a lot of time to make a transaction because the browser is not working sometime or working slowly." INT 13

And 5 interviewees said that availability (allowing citizens to obtain e-government services through direct link to government services, available at any time) is an issue that impacts on participant attention to e-government use. One such interviewee said:

"I am Using Ministry of Labour website to get work permits for a private company the information I need some time not available because the website underdevelopment." INT 5

Also, 8 interviewees argued that e-government services are complex or hard to understand make their attention of use very low. INT 1 said:

"Rarely use of e-government service because when I try to use it, find that hard to use and I don't have much experience with using Internet although, I using e-banking and social media it's different from e-government service because the e-banking easy to use in the same time don't require lots of steps to do the transaction." INT 1

As a summary finding of the e-government service use in Jordan from the data collected, the reader can see that there are frequent users but there is a problem with citizens using e-government service and the e-government service does not provide the services and information needed. The main problems that interviewees provided were the slow speed of the website, the complexity of use and availability of the service.

This issue has a direct impact on citizen use and we could see how the frequency of use, citizen satisfaction and intention to use e-government services reflects their use and helps them to know what the problems are and how to solve them from their experience and knowledge. From the use of other ICT such as social media, e-shopping and e-banking, we could see they mostly use all types of other online services daily, while with the e-government service there is limited use and they are unhappy.

Overall the findings show that if citizens have a high-quality service it will make them more satisfied with the e-government service, and likely make the participant a frequent user of services, because as is shown here all satisfied participants are frequent users and they plan to use services in future. This is in line with other studies regarding how satisfaction in e-services increases citizens' frequency of use, and also positively impacts on citizen' trust as discuss in Section 4.4.

4.3 Quality of e-government services in Jordan

After discussing citizen's use of e-government services in Jordan, there is a need to understand the main issues with the quality of e-government services. This is determined through the study of citizens' perspectives about the quality of e-government services, what the main issues are with quality of service, and the source of the limitations of e-government services. A total of 17 interviewees suggested that the e-government services in Jordan needed to improve. There is significant concern and difficulties in using e-government services, which make the citizens' expectations low, resulting in limited use of the services. In the literature review section, three dimensions of quality service were identified: information quality, service quality, and system quality (Zeithaml, 2002). These are discussed in light of the interviewee responses.

The first section briefly discusses the citizens' perspectives about the information quality of e-government services, such as information accuracy, information completeness, and information quantity. The second section discusses the citizens' perspectives about the quality of e-government services, for example, usability, suitability, and availability. The third section discusses the citizens' perspectives about the system quality of e-government services, such as speed of website, helpfulness and accessibility.

Table 4.3 provides a summary of citizen perspective about the quality of e-government services to help the reader understand the perspective about each factor of quality of e-government services. Column one refers to the three levels of service: information quality, service quality and system

quality. Columns two and three identify dimensions of each of the levels of service along with the definition. Column four presents quotes as example from the data.

Category	Dimensions	Definitions	Interviewee log
Information quality	Information accuracy	The information provided by e-government websites is true and correct.	<i>"Information accuracy of the e-government website, its significant factor because if the website provide untrue information, the citizen will not trust it and use it again."</i> INT 3
	Information completeness	A website provides information needed by citizens to complete governmental transactions.	<i>"I used e-government website to enrol in Social Security Corporation, to get social security payment, but the task was not complete because the instruction of make this transaction uncleared, asking many times to insert my data, also lots of unneeded information so the transaction could not complete, the government should understand what citizen situation, needs and make the governmental transactional easy to use and secure in a suitable way for citizen."</i> INT 5
	Information quantity	Amount of information provided.	<i>e-government service should provide citizen all information needed, about the benefit of using e-government service and awareness about the way of using e-government service (navigation and integration)."</i> INT 12
Service quality	Usability/ ease of use	Presentation of information and choices is in a clear and concise manner, there is a lack of ambiguity and the placement of important items is in appropriate areas.	<i>"it tries to Civil Service Bureau website to add some information to CV, to get the governmental job, but this simple transaction uncompleted because the way of making it was uncleared and the information provide my website it does not explain how we could make the transaction done."</i> INT 10
	Suitability	Suitable for citizen knowledge and possibilities of use.	<i>"Suitable for Jordanian possibilities, such as their education level their language and even amount of time spent on the Internet. While e-government service its need you to be very smart to do the transaction because it's very complex and needs you to be a very good use of the Internet."</i> INT 13
	Availability	Allowing citizens to obtain e-government services at any time.	<i>"I am Using Ministry of Labor website to get work permits, for a private company. The website sometimes not available, because it was website underdevelopment"</i> INT 9
System quality	Speed of website	Websites load and process quickly.	<i>"Quality e-government service should be improved through made the speed of website which means the speed of process the transaction, without spending lots of time to make the transaction done."</i> INT 7
	Helpfulness	The e-government website provides citizens with what they need and want at any time.	<i>"E-government service should providing helpful information and services, which mean satisfy our need in a wonted way, based on citizen need regarding their resources and time of making the transaction, also spread awareness about e-government service."</i> INT 8
	Accessibility	Have an e-government account to easily access the website at any time.	<i>"Some e-government website ask you to have an account to get information about the services, which make thing hard to do because of it hard to have an account in e-government website."</i> INT 8

Table 4.3 Citizen Perspective about the quality e-government service factors

4.3.1 Information quality

'Information quality' refers to information accuracy, information completeness, and volume of information (Xu, Benbasat, and Cenfetelli 2013). For participants, it was often contrasted with citizens' experiences other e-services such as e-banking, e-shopping, social media etc. Interviewees expressed their views on these dimensions as well as ways that they believe it could be improved by reflecting on their experience with other online services. This section describes citizens' perspectives about the information quality of e-government service in terms of information accuracy, information completeness and volume of information.

4.3.1.1 Accurate information

Accuracy of information was a concern of many interviewees. Interviewees reflected on the information provided by the e-government websites, and how it should be accurate and up to date so that users can make complete and accurate transactions.

Accuracy of information impacts on the current use of e-government service by citizens, as well as their future use. Hence some interviewees explained that the quality of e-government services should be improved to provide citizens with accurate data to make them use it again in the future. At the same time, some interviewees were satisfied with the accuracy of information on some websites. The following quote provides an example of how the e-government website saves time and effort by providing information that is accurate to help them accomplish their task.

"I am satisfied with e-government service because it saves time and effort and the education website provides needed information at the same time accurate data about the university and education."

INT 2

Based on the participant log (see Table 4.3), the accuracy of information provided over the e-government services is significant. The interviewees explained that there was a need to improve accuracy when compared with the accuracy of information in other e-services.

There were some negative experiences, and some interviewees explained that there was a need to improve the accuracy of information, giving examples of uncertainty around accuracy and out of date information. For example, the following quote shows the problem an interview encountered with inaccurate information:

"I used the Jordan Post website to receive post from overseas but the website dissatisfied the transaction because the website provides non-accurate information about my post and provide invalid number to contact the post office employee, still remember my friend who get a traffic fine for speed in place he wasn't even there so it's a big mistake and the government website should be accurate to make citizen' trust use it the e-government service should help citizen to make their governmental transaction based on their need and want also the Information accuracy of the e-government website, its significant factor because if the website provide untrue information, the citizen will not trust it and use it again." INT 3

4.3.1.2 Information completeness

Information completeness means that citizens could complete the transaction or find all the information needed online, which is a significant factor of quality e-government service (Chen, Liu, and Zhou 2006). Three participants could not complete their government transaction online because of a lack of information. The main reasons were that the website did not provide the information they

needed and the difficulty in performing the transactions online because of limited of information needed to make the governmental transaction, as INT 10 explained.

"I try to used Civil Service Bureau website to add information on my CV to get a governmental job, but the website dissatisfied my transaction and couldn't add information to my CV, because the website didn't provide the information need to complete the transaction" INT 10.

INT 5 could not complete the transaction because the instruction to perform the transaction was not complete and clear; this made the interviewee dissatisfied with e-government services, and led to them forming low expectations about the quality e-government services:

"I used e-government website to enrol in Social Security Corporation to get social security payment but the task was not complete because the instruction of making this transaction unclear, asking much time to insert my data also lots of unneeded information so the transaction couldn't complete, the government should understand what citizen situation, needs and make the governmental transactional easy to use and secure in a suitable way for citizen." INT5.

Based on the participants perspectives information completeness is an important factor for completing governmental transactions online and enabling citizens to use e-government services, giving them positive expectations about the quality of e-government services.

4.3.1.3 Information quantity

The quantity of information on e-government websites should be sufficient information for citizens to understand issues, without missing any information needed to complete transactions, and without too much unnecessary information, which could confuse the citizens. INT 12 clarify two significant points; firstly, the e-government service should spread awareness about the benefits of using e-government services, and also how to use them; secondly, there is lots of unnecessary information, through advertisements on the website, which makes the citizens confused.

"E-government service should provide citizen all information needed about the benefit of using e-government service and awareness about the way of using e-government service (navigation and integration). Also appear of advertisement on the e-government website its make citizen feel bad about service, because the governmental website should be integrity and don't have many advertisements." INT 12

Another interviewee had an issue with quantity of information of an e-government website, where the information needed to complete a transaction was limited. INT 1 tried to pay a traffic fine, but could not because there was limited information explaining how to complete this transaction.

"E-government website should provide citizen with all information need to make each transaction otherwise how citizen will know to make the transaction also how the will be able to make the transaction, which indicates the sign of spread awareness about the way of use e-government service to make citizen able to get the e-government services and make their government successfully." INT 1

As the quote above demonstrates, the quantity of information provided by the e-government website should be consistent with citizen needs. If there is too much information that is not needed, it may confuse citizens and lead to incomplete transactions. At the same time, if the government provides limited information about the website or about how to do transactions online, it will mean citizens are

unable to complete their transactions. In other words, there needs to be a balance between meeting citizen needs for quality whilst not overloading users with information.

In summary, interviewees referred to three main dimensions of information quality. The first one was **information accuracy**, which referred to information provided by government websites that was not accurate and impacted on participants' ability to make transactions. When participants discussed the **information completeness** they referred to trouble finding information and the lack of information resulting in dissatisfaction. Lastly, participants referred to the **volume of information on e-government websites** – and how it should meet the needs and wants without providing unnecessary information to confuse citizens, or providing limited information about transaction so that citizens are unable to transact online.

4.3.2 Service quality

This section outlines participants' perspectives on the quality of e-government services, and in particular the three main sub-themes which emerged from the interviews – usability, suitability, and availability

4.3.2.1 Usability

'Usability' is the presentation of information and choices in a clear and intuitive way to reduce ambiguity and is a main factor of quality e-government service. INT 5 said:

"Quality of e-government service are understood citizen need and help citizen to be able to use e-government service, through making the governmental transactional easy to use and suitable for a citizen ability." INT 5

It is important to make e-government services easy to use and to help citizens be able to use e-government services, otherwise they will not be able to get benefits from the websites, and also the use of e-government services will be low because it could not provide for citizens' needs and wants in an easy way.

Seven interviewees agreed that usability is an issue for quality of e-government services. INT 10 offered the following:

"I try to use the Civil Service Bureau website to add some information to her CV trying to get the governmental job, but this simple transaction uncompleted because the way of making this transaction is unclear and the information provide by website it does not explain how we could make the transaction done, also the placement of important items aren't inappropriate areas." INT 10

The participant tried to explain that the reason for low usability of governmental websites is because the steps for completing transactions are unclear; the information provided by the website does not explain how to perform the transaction; and important items are not placed in appropriate areas, so the participants could not complete their transactions, and as a result were dissatisfied with e-government services.

At the same time, some interviewees were satisfied with the usability of some e-government websites and they were happy with the usability of the service. For example, INT 16 explained:

"Quality of e-government service is making a governmental transaction with saving citizen time and effort in an easy and helpful way which make the usability of "Denarak" website very high among student because it's easy to use it suitable for citizen ability." INT 16

Some interviewees provided information on many issues with using e-government services, based on the comparison of e-government services and other e-services. Government website usability issues include: hard to use, and unsuitable for Jordanian possibilities, such as their education level, their language and the time spent performing transactions. Some e-government websites made the interviewees feel like the websites were messy because of the mis-placement of important items and information and processes not being in appropriate areas. INT 15 spoke about this;

“E-government service in Jordan doesn’t cup with other e-services and it is not suitable for citizen possibilities. Through looking for e-shopping as an example of other e-service, there is many websites such as Amazon very easy of use and suitable for Jordanian possibilities such as their education level their language and even amount of time spent on Internet while when use e-government website you feel like messy and you don’t know where should start and the placement of important items are not appropriate areas. Its need to be very smart to make transaction because it’s very complex and needs to be a very good use of the Internet.” INT 15

The participant compared the usability of e-government services with other e-services, such as an e-shopping website, and found many issues with the usability of the e-government service such as, when he used the e-government website he felt like it was messy and he did not know where he should start the transaction. Also, the important items were not in appropriate areas, which required users to be very smart to complete the transaction because it was very complex and they needed to be a very proficient user of the Internet. This is different from other e-services.

4.3.2.2 Suitability

Suitability of e-government services with regard to citizens’ knowledge and education level, and their experience with technology, age, and level of language is important to get citizens to use e-government services and have a good perception of the quality of e-government services, as many of the interviewees argued. The interviewees faced many issues when using e-government services because the services were not suitable for their Internet ability and knowledge.

Many interviewees discussed suitability as a factor of quality service, and two interviewees argued that suitability is the significant factor in quality e-government service – recognising the suitability of citizens’ ability and knowledge in their definition of quality service. One of these was INT 20:

“The quality of e-government service is providing a needs and wants governmental service online, with suitable citizen ability such as their knowledge, experiences with the Internet regards their age and their education level, also their ability to understand the word used over the website. Also suitability with new technology such as be able to use e-government services over the smart phone like many other e-services in an easy way.” INT 20

This participant noted the significance of making the e-government services suitable for citizens in her definition of ‘quality e-government’, meaning the citizens’ ability to use e-government service based on their knowledge and experience with the Internet, and also regarding their age, their education level, and their ability of understand the words used on the website. A participant provided an example of another way of making the e-government service suitable using other technology such as over the smart phone.

When the participants were asked about the quality of e-government services in Jordan, and how it could be improved, some of the participants indicated that the governmental transactions needed to be more suitable for citizens and use new technology, such as inferred by INT 13.

“To improve the quality of e-government service in Jordan, there is a need to understand citizen need and want, also try to make the government transaction easy to use. In the same time suitable with citizen ability and with technology now, through looks for other e-service and learn how other e-service interaction with the citizen, regards their ability to use also their knowledge and experience, because of that will find an old people use another e-service, such as social media, e-banking but I think rarely find an old people use e-government service, because it's not suitable for their age and knowledge with technology.” INT 13

This participant added that the government should learn from other e-services regarding: how to make services suitable for citizens. When the participants were asked about the impact of the quality of another e-service on their perspective about e-government services, they compared the suitability of e-government services with another e-service, such as social media, e-banking, and e-shopping, and clarified that government should take a lesson from other e-services, to improve the quality of e-government service. INT 2 provided the following viewpoint:

“E-government service in Jordan doesn't cup with other e-service and it is not suitable for citizen possibilities. Through looking for other e-service such as e-shopping there is many website such as Amazon, Jamlon this website very easy of use because its suitable for Jordanian possibilities such as their education level their language and even amount of time spending on Internet, while when you use e-government website you feel like messy and you don't know where should start, also the placement of important items are not appropriate areas.” INT 2

The participant gave two examples of the suitability of e-shopping for citizens' abilities, such as Amazon and Jamlon websites, and explained how it is the matching of services with citizens' abilities that directly impacts on their perspective about the suitability of e-government services.

This participant also noted the need to make the e-government services suitable for citizens' abilities in using new technology, and learning from other e-services about making the e-government services suitable with regard to citizens' knowledge, age and experience with the Internet.

4.3.2.3 Availability of service

‘Availability of e-government services’ refers to allowing citizens to access e-government services at any time. Availability is one of the problems that challenges citizens' experiences while they trying to use e-government services, and has a direct impact on e-government service use and citizens' perspectives about the quality of e-government services.

Many interviewees discussed availability as a factor of quality service, and some suggested that availability of e-government service is a significant factor in the quality of service. When asked to define the quality of e-government service, they recognised the availability of e-government service in their definitions. For instance, INT 17 defined it as:

“Definition of quality e-government service mean satisfying citizen need and want from the governmental transaction in an easy and simple way, regard of citizen ability to use the Internet, also make the services available any time citizen need.” INT 17

This participant defined the quality of e-government service as satisfying citizens' needs and wants, and makes the services available any time citizens need, which makes citizens positive about the quality of e-government services.

Also, when the interviewees were asked about the impact of another e-service on their perspective of the quality of e-government services, they compared the availability of e-government service with other e-services such as social media, e-banking, and e-shopping. They also explained that e-government should take a lesson from other e-service availability, to improve the quality of e-government service such as INT 9.

"I am Using Ministry of Labor website to get work permits for a private company the information sometimes not available because the website under development for many times, while I am using many types of e-service such as e-shopping and e-banking, rarely happen that the application is under development and the services are available all time which directly impact on my respective about the quality of e-government service and make it very low." INT 9

The above quote demonstrates, that the participant compared the e-government service availability with other e-service availability and faced many issues with availability. INT 11 had a similar experience with an e-government service:

"I am trying to use Jordan embassy website to renew passport while was overseas but I dissatisfied with the quality of e-government service because I try many times to use the website and it was under development for a long time." INT 11

As noted in the quote above, there is an issue with the timing of the availability of e-government, which make the interviewee dissatisfied with e-government service, which indicates the significance of making the e-government service available most of the time, to make citizens satisfied with the service.

A summary of citizens' perspectives about the quality of e-government services is that the requirement to make the services easy to use is important. They suggested improvements to e-government services to make them easily understood and straightforward, through providing simple and understandable words, and also direct and easy steps for completing government transactions, to enable citizens to use it easily without any difficulties. Also, participants explained the requirement of making the e-government services suitable for citizens' ability, knowledge, experience with the Internet, age, and use of new technology. There has been an issue with the availability of e-government services for a long time, which made the interviewee dissatisfied with e-government services, indicating the significance of making the e-government service available all time.

4.3.3 System quality

This section explains the participants' perspectives about the quality of e-government system factors based on the experiences of the participants, namely the speed of website, its helpfulness and accessibility, based on their experiences with e-government services and another e-services.

4.3.3.1 Speed of website

E-government websites should load and process quickly to reduce user frustration. This is important because the main goal of e-government services is to save citizens' effort and time, as many researchers identified (Abu-Shanab, 2013; Alshehri, 2012). Many interviewees discussed the speed of governmental websites as a factor of quality systems. INT 9 provided the following insight:

"Quality of e-government service is satisfied citizen need and want, with high website speed and process of the governmental transaction also use the simple, clear word in the website, make the governmental transaction easy to use and availability of the service." INT 9

The participant sees the speed of a website as a sign of a quality service, to save citizens time through connecting citizens with government, and also the speed of processing governmental transactions.

Five interviewees determined that the e-government website in Jordan was slow, so there is a significant need for improving the speed of the website, compared with their experience with another e-service such as social media, as discussed by one participant, INT 15.

“Using social media are easy, simple, interesting and satisfy our need and want in a quick way. This is the impact on our expectation about e-government service and makes our expectation very low about the e-government service because the website working slow and need a lot of information which take lots of time.” INT 15

As the interviewees said, using another e-service impacted on their expectation because the e-government website was working slowly and asked for lots of information which made the process slow, and also made citizens dissatisfied with the e-government service, compared with their experience with another e-service.

The e-government websites should provide high-speed services through making the websites load and process quickly, and not ask for lots of information each time citizens want to use it. Citizens use e-government services to save time and effort, so if they encounter problems using e-government services, it will make them dissatisfied with the quality of e-government services.

Consequently, participants’ perception about the speed of the government websites is low, as many of them determined there is significant need to improve the speed of the government website.

4.3.3.2 Helpfulness

The helpfulness of e-government websites is an important factor of quality service of e-government according to the interviewees. INT 8 explained:

“Quality of e-government service are providing helpful, easy and accurate service or information, based on citizen need regarding their resources and time, with spread awareness about e-government service.” INT 8

Some interviewees, such as INT 2, were happy with the helpfulness of e-government websites. They found the e-government website helpful because it provided the information needed to enrol in the university.

“I was using this website to get my final result of high school to enrol university, and I found another site has a lot of helpful information help student to choose a suitable major in university, based on student score and preferences.” INT 12

The participant found that the e-government website was helpful and provide them with the required information to choose a suitable major in university, which made them satisfied with the quality of the service and also encouraged them to use e-government more in future.

In contrast, 14 interviewees said that the e-government service was really unhelpful, which made their perception about the quality of e-government service low, and they were dissatisfied with the services. Government websites should provide citizens with helpful services through understanding what they need and want and the way they want it, such as discussed by INT 8.

"E-government service should provide helpful service and information, to satisfy our need in an easy way based on citizen need, in the same time regarding their resources and time the transaction needs with spread awareness about e-government service." INT 8

There were many interviewees that said the government needs to improve the quality of services to be more helpful because if the services cannot provide the citizens what they want and need in ways that suit their ability, the citizens cannot use it and their perception about the e-government service will be low.

In conclusion, some of the interviewees found that e-government services were helpful in providing needed information and services, and at the same time many of the participants found that e-government services were unhelpful in making their government transactions.

4.3.3.3 Accessibility

As many interviewees argued, accessibility is an issue with e-government services in Jordan because there is a limited awareness of how to use and access e-government services, and how to make an e-government service account for some websites, to save time and effort each time they use an e-government service website.

Some participants found it hard to make an e-government account for some websites, which made accessibility for the e-government website hard, so there is a need to make citizens create an e-government account easily to increase the use of e-government services. INT 8 said:

"There is an issue faced with some e-government website that you need to have an account to get information about the services which make things hard to do because it's not easy to have an account in e-government website." INT 8

This participant found it hard to make an e-government account, rather than fill information in each time they use the website, which made them unable to access the services easily. The participant preferred to use the website without asking for an account, which limited the range of services they could use.

Some of the interviewees compared the accessibility of e-government services with other e-service accessibility, which showed them that there was an issue with accessibility when using e-government services. Because they had found how easy it was to make an account on another e-service, and access other websites easily, this directly impacted on their perception about the accessibility of e-government services, such as explained by INT 9.

"When I using e-shopping websites like eBay, I am doing this transaction online with minutes over my smart phone which is an easy way to access, without spending time to get access each use, because I have an eBay account (email and password). which is directly impact on my perspective about the accessibility of some e-government website and make me dissatisfied with that." INT 9

The participant tried to explain that the e-government services should be more accessible, through helping citizens to make a government account easily, and also enabling citizens to use e-government services over the smart phone, which makes e-government websites more accessible and increases the use of e-government services in Jordan.

Based on the above, the government should improve the usability of e-government service websites, through making them suitable for citizens and without involving spending a lot of time to perform transactions.

Also, having a helpful e-government website is an important factor of quality systems. To make the websites 'helpful', based on the interviewees' viewpoints, the government should understand the citizens' needs and wants, make the transactions easy to use, and also spread awareness about how to use e-government websites, to make citizens better able to get benefits from e-government services.

4.3.4 Summary

As a summary of citizens' perspectives about the quality of e-government services, there are three main factors that help to understand the citizens' perspectives about the quality of e-government, which are: information quality, service quality, and system quality.

The citizens clarify three main factors of information quality – the first one is information accuracy; interviewees found the information provided by some government websites was not accurate, which impacted on the participant's ability to perform transactions and their intention to use e-government services, and also impacted on the participant's trust about the use of e-government services. When the participants discussed the information completeness, some interviewees stated they could not complete the transaction or find the information needed because the e-government website was incomplete, which made the participant dissatisfied.

Also, the quantity of information on the e-government website should be suitable for citizens' needs and wants, without providing unnecessary information or making citizens confused. Limited information about transactions can result in the citizens unable to complete their governmental transactions online.

Also, the citizens suggested that there was a need to make e-government websites easy and straightforward, through providing simple and understandable instructions and direct and easy methods of making government transactions, to enable citizens to use it without any difficulties.

Participants explained the requirement of making the e-government service suitable for citizens' abilities with new technology, and suitable for their knowledge, experience with the Internet and also with their age. There are often issues with the availability of e-government services, which made the interviewees dissatisfied with e-government services, and indicated the significance of making the e-government service available most of the time, to make citizens satisfied with the service. The government should improve the usability of e-government service websites through making them suitable for citizens' potential, and without requiring extensive time to complete transactions (using simple and short steps).

With regard to the system quality of e-government services, the participants agreed that the speed of the government website is slow, and there is significant need to improve the speed of the governmental website, because it has a direct impact on their perception about the quality of e-government services, and makes them dissatisfied with the service.

There were many interviewees that said that the government needs to improve the quality of its services to be more helpful because if the service cannot provide the citizens with what they want and need in a way that suits their ability, the citizens would not use it and their perception about e-government services will be poor.

‘Helpfulness’ refers to the service providing users with what they need. While some interviewees found that e-government services were helpful in providing needed informational services, many participants found the e-government services not helpful for making their governmental transactions. The e-government services should be more accessible, through helping citizens to make a government account easily, and also enabling citizens to use e-government services over the smart phone, which makes e-government websites more accessible and increases the use of e-government services.

This was a key issue for many participants and may help explain why some of the other factors were also issues. For instance, if the participants cannot easily use a system then they will struggle to find information and complete transactions.

4.4 The way citizen expectations are formed

This section examines the way of citizen expectation around quality of service are formed. It does so by focusing on three main elements. Firstly, it reflects on the participants’ experiences with e-government services in Jordan, based on the discussion in Sections 4.1 through to 4.3. Secondly, it makes comparisons with the participants’ experiences with other online services such as e-shopping, e-banking. Thirdly, it makes comparisons with participants experience with offline government service. Citizens’ expectations are formed in two stages – before use of e-government services (based on citizen use of other online services and other people’s experiences with e-government services), and after use of e-government services where the use of other online services influences how they make sense of their experience using e-government.

4.4.1 E-government experiences

In the previous sections, the participants reflected on their experiences with e-government services. This showed that when participants have a good experience with e-government services it directly impacts on citizen expectations about the quality of the service. One example is INT 20 who used e-government services (Income and Sales Tax Department website) to pay income tax online, and the participant was satisfied with the quality of the service because they could make the transaction online. Consequently, the participant’s expectation about the quality of e-government services is very high.

“I am using the Income and Sales Tax Department website to pay the income tax online and I am happy with the service; also if I could make all governmental transaction online, it will save our time and effort, which makes my expectation about the quality e-government service very good because I could made the transaction online in an easy way”. INT 20

INT 11 used the Jordan Embassy website to renew his passport while he was overseas, but the participant could not make the governmental transaction because each time he tried to use the website it was ‘under development’ which made the participant dissatisfied with e-government services, and made their expectation about e-government services very low.

“I am trying many times to use Jordan embassy to renew passport while I was overseas and it was a necessary need to make this transaction before I leave the country but the website was under development for long time, I am really dissatisfied with e-government service so my expectation is very low because the significant factor of e-service is availability did not exist”. INT 11

So the participants indicated that if the e-government service provided citizens with high quality e-governmental transactions it will make citizens have a good experience and make citizens satisfied with e-government services so their expectation will be high; but if the quality of e-government

services are low and not suitable for the citizen's needs and wants, it will result in an unsuccessful experience and cause low expectations about the quality of e-government services.

4.3.2 Experiences with other e-services

This section examines how the use of other online services impacts on citizens' expectations about the quality of e-government services. Most participants agreed that there is big gap between the quality of e-government services and the quality of other e-services such as e-banking and e-shopping.

When participants had very good experiences with other e-services and tried to use e-government services, they often identified many issues with quality of service and it gave the participant low expectations about the quality e-government services.

All of the participants, when asked about the quality of e-government services, immediately compared them with the quality of other e-services, and formed lower expectations on comparison with other e-services. All participants frequently use social media; 15 use e-banking over the smart phone; and 7 use e-shopping websites. This indicates that citizens are familiar with using other e-services and they have good knowledge about the quality of e-services.

The following sections refer to how citizens' expectations are formed, by reflecting on several key areas from the data: usability, information accuracy, ease of use and so on. Table 4.4 (end of this section) provides examples of each of these with comparisons from the participants between e-government usage and other e-services. Following this, each of the dimensions is explained in more detail.

4.4.2.1 Usability

Participants compared many dimensions of the quality of e-government services with the quality of other e-services – see Table 4.4. All participants compared the usability (ease of use) of other e-services with the usability of e-government services. One such participant was INT4 who said,

“Using other e-services directly impacts on my expectation about the quality e-government services because when I feel how easy it is (ease of use), helpful and saving my time, effort and at the same time satisfying our need and want. But e-government in Jordan is very different, hard to use it and hard to understand how to use it, which makes citizens have low expectations about the e-government service compare with other e-service”. INT 4

This participant found the usability of other e-service greater than e-government services, and this directly impacts on citizens' expectations about the quality of e-government services because there is big gap between other e-service usability and e-government service usability.

4.4.2.2 Accurate information

Accurate information is another quality e-service dimension that has been discussed by participants. Many participants tried to compare the accuracy of other e-services with the accuracy of information provided by e-government services. Participants argued that e-government services need to improve the accuracy of information on the websites because many participants could not make their governmental transactions because the website was not providing accurate information. INT 3 said:

“I am using e-banking and it's significant to provide accurate information unlike e-government services; remember my friend who got a traffic fine for speeding in a place where he wasn't even

there, so I think it's big mistake and the government website should be accurate to make citizens trust in using it." INT3.

There is a need to improve the accuracy of information as a significant factor of quality e-government service, because it directly impacts on the ability to complete governmental transactions, and impacts citizen expectation of the quality of e-government services.

4.4.2.3 Helpfulness

The helpfulness of the e-government website was compared as a dimension of quality service by many participants to helpfulness of other e-services. Participants agreed that other e-services are more helpful than e-government services, which makes the citizen expectation about the quality e-government service low, as advised by INT 7 as follows:

"I am using e-banking, e-shopping and social media. The quality of another e-service is very good compared to e-government service. These impacts on citizen expectation about the e-government service. Especially when the citizen uses another e-service and notes how is helpful it is, satisfying our needs and wants in an easy way, will find the big gap between the e-government helpful and how other e-service websites are helpful. This means the e-government should be helpful and at the same time spread the awareness for citizen about how to use it in simple way." INT 7

This indicates the significance of providing helpful services for citizens to help citizens make their governmental transactions online, and to ensure citizens are satisfied with services and have good expectations about the quality of e-government services.

4.4.2.4 Ease of use

Many participants compared the ease of use of other e-services with e-government services, and they found that other e-services were easier to use than e-government services, which contributes to citizens having low expectations about quality e-government services. INT 18 explained:

"The use of other e-services used frequently (almost every day, such as Facebook and shopping) will feel how it's easy and everything is clear; also some transactions with "one click" and your transaction process done. This makes citizens feel how the e-government website design is complex and is totally different between e-government websites and other e-services". INT 18 advised:

This participant noted here that use of other e-service becomes a daily use because they are easy to use, unlike the e-government services that needs you to have a good experience with the Internet to be able to use it.

4.4.2.5 Speed of website and completing transaction

As many participants argued, speed of the e-government website is important, to complete the governmental transactions without spending lots of time, and this impacts on citizens' perspectives about the quality of e-government services.

When the participant compared the speed of the website for e-government services against that for other e-services, they argued that other e-services websites processed the transaction quicker than e-government services, which gave them low expectations about the quality of e-government services. INT 9 said:

“Another e-service doesn't need a long time to do the transaction and it is easy to use compared to e-government. For example: when I am using e-shopping website such as Epay I am doing this transaction online with a few minutes from my smart phone and in easy way to access because I have my account email and password but if I want to pay tax or bills I need to get access again and visit the website so the process takes time.”

As this participant explained here, there are many factors that make the speed of e-service quicker, such as having an e-account which means the citizens do not need to provide the personal information each time they use the website. Also, government services that provide an Application allow participants to make the transaction over smart phone.

This participant says that other e-service websites are quicker than e-government websites, which makes the participant's expectations of the quality of e-government services lower than another e-services quality.

4.4.2.6 Availability of service

It is important to allow citizens to obtain direct links to government services, available at any time. When the participants used other e-services such as e-shopping and e-banking they found the service available any time they needed to make a transaction, which made the participants have high expectations about the availability of e-government services.

When the same participants used e-government services and faced many issues with the availability of services, such as some e-government websites that have been under development for a long time, this impacts on the availability of services and gives participants low expectations about the quality of e-government services.

Participant 11 tried to explain the difference between availability of e-government websites and other e-services, and how it impacts on citizens' perspectives about the quality e-government service.

“I am using e-shopping, e-banking and social media; use of e-service becomes a daily use because it's available most of the time, unlike Jordan embassy website - the website was under development for a long time which makes the services unavailable too. The quality of other e-services has a direct impact on my expectation about the e-government service, especially as we are in 2018 and the technology becomes a fundamental thing in our life, and most transactions are available online while if you look for e-government service, your perspective will be so bad based on your high expectation from using another other e-service.” INT 11

As the participant explained, the use of e-services becomes a fundamental tool in our life, which makes us use e-services daily because it is available any time we need it, and it also makes the participants' expectations of the quality of e-government services very high. This is unlike the participants' experiences with e-government service availability, which made the participants have low expectations of the quality of e-government services.

4.4.2.7 Accessibility

Many participants argued that accessibility is an issue with e-government services in Jordan, because there is a limited awareness of how to use and access to e-government services, and also how to make an e-government service account for some websites to save time and effort each time one uses e-government service websites.

When the participants used other e-services and found how easy it was to access and create an e-service account for each service to help the participants to access the services, this gave them high expectations of e-government accessibility. INT 9 provided the following:

“When I using e-shopping websites such as Epay I will note how it’s easy to access the service and make transactions; I am doing this transaction online within minutes from my smart phone and in an easy way to access because I have my account email and password. But if I want to pay tax or bills I need to get access again and visit the website, and even then there this limited information to explain the way to make an e-government account which is wasting my time and effort.”

When the participants compared the accessibility of other e-services with the accessibility of e-government services and noted how easy it was to have an account with other e-services, unlike the e-government service, this gave the participants low expectations of the quality of e-government services.

4.4.2.8 Suitability with citizen expectation

Suitability of e-government services with regard to citizen knowledge, education level, and their experience with technology, age, and level of language is important to make the citizens use e-government services and have good expectations about the quality of e-government services, as agreed by many of the interviewees.

When the participants found the suitability of other e-services in line with citizens’ abilities to use technology, this gave the participant a high expectation of the quality of e-government services, such as described by INT 2.

“E-government use should be easy and suitable for different age and education level for satisfying our needs and wants. I could say some websites you can get information easily but it is hard to do your transaction level because it’s not suitable for our ability and understanding of use of technology. E-government service in Jordan doesn’t compare with other e-service and it is not suitable for citizen possibilities. Through looking for other e-service such as e-shopping there is many website such as Amazon, jamlon - this website is very easy to use because it’s suitable for Jordanian possibilities such as their education level their language and even amount of time spending on Internet.” INT 2

When the participants compared the suitability of other e-services, such as the Amazon shopping website, with e-government suitability, the participants formed low expectations of the quality of e-government services because the services are not suitable in terms of technology and citizen ability.

4.4.2.9 Flexibility

E-government services should be flexible enough to anticipate and react to the rapidly unfolding changes in this environment. Moreover, citizens suggest through feedback that the e-government services need to be more flexible and have high-quality service by providing quick responses to rapidly growing technology. INT 15 explained the significance of having flexible e-government services with citizen needs in mind and with new technology.

“I am using social media, as many Jordanian using social media feel how it easy, simple interesting satisfy our need and want in quick way also how is flexibility and quick response with new technology and satisfy our new and want. This is impact on our expectation about e-government service. And

make our expectation very high about the e-government service but when we start use e-government service and see how it's the server are slow and need a lots of information and take time its make our perception very low about the e-government service. Which explain why many Jordanian use other e-service and not e-government service user." INT 15

When the participant used other e-services and noted how flexible they were, this directly impacted on the citizen, causing high expectations about the flexibility of e-government services, but when they started using e-government services this expectation changed. There is a need to have quick response with new technology and with participant needs and wants.

The comparative analysis suggests that the use of other e-services (e-shopping, e-banking, social media) directly impacts on citizens' expectations of the quality of e-government services, and makes citizens' expectations very high about the quality e-government service before trying them, due to the high quality of other e-services. Table 4.4 provides further evidence and examples.

Overall, based on this analysis it can be argued that the high quality of service from other e-services leads to a low perspective about the quality of e-government service. As noted, this is because when citizens use other e-service they note how easy it is to use, suitable for them and that the citizen is able to make their transaction with saved time and effort. In contrast, some e-government website participants note how hard it is to use and sometimes the citizen is unable to make simple governmental transactions.

Quality of e-services		
	e-government	Other e-service
Category	Interview log	Interview log
Usability: is the presentation of information and choices in a clear and concise way. Is there a lack of ambiguity, and is the placement of important items in appropriate areas?	<i>"E-government service in Jordan doesn't cup with other e-services and it is not suitable for citizen possibilities. Through looking for e-shopping as an example of other e-service, there is many websites such as Amazon very easy of use and suitable for Jordanian possibilities such as their education level their language and even amount of time spent on Internet while when use e-government website you feel like messy and you don't know where should start and the placement of important items are not appropriate areas. Its need to be very smart to make transaction because it's very complex and needs to be a very good use of the Internet." INT 15</i>	<i>"Using other e-services directly impact on my expectation about the quality e-government service because when I feel how is simple (ease of use), helpful and saving my time, effort and in the same time satisfying our need and want. But e-government in Jordan it is very different hard to use it and hard to understand how to use it. Which make citizen have a low expectation about the e-government service compare with other e-service." INT4</i>
Accurate information: information provided by e-government websites are true and correct.	<i>"I used the Jordan Post website to receive post from overseas but the website dissatisfied the transaction because the website provides non-accurate information about my post and provide invalid number to contact the post office employee, still remember my friend who get a traffic fine for speed in place he wasn't even there so it's a big mistake and the government website should be accurate to make citizen' trust use it the e-government service should help citizen to make their governmental transaction based on their need and want also the Information accuracy of the e-government website, its significant factor because if the website provide untrue information, the citizen will not trust it and use it again." INT 3</i>	<i>"I am using e-banking and its significant to provide accurate information unlike e-government service still remember my friend who get a traffic fine for speed in place he wasn't even there so I think it's big mistake and the government website should be accurate to make citizen' trust use it." INT 3</i>
Helpful: the e-government website provides citizens what they need and want at any time.	<i>"E-government service should provide helpful service and information, to satisfy our need in an easy way based on citizen need, in the same time regarding their resources and time the transaction needs with spread awareness about e-government service" INT 8</i>	<i>"I am using e-banking, e-shopping and social media, the quality of another e-service it is very good compared to e-government service. This is impact on citizen expectation about the e-government service. Especially when the citizen uses another e-service and note how is helpful, satisfy our need and want in easy way, will find the big gap between the e-government helpful and how other e-service website helpful. Which mean the e-government should be helpful in the</i>

		<i>same time spread the awareness for citizen about how to use it in simple way.” INT 7</i>
Ease of use: it is simple and easy (not complex) to understand what the benefits provided are from the website and how to use it is clear.	<i>“The e-government service in Jordan could improve through know our need, want also through help citizen to make their transaction easily and ease of use to cope with new technology such as other e-service and learn from other developed countries how e-government service satisfy citizen needs and want.” INT 10</i>	<i>“The use of other e-services become very usually (almost every day such as Facebook and shopping) will feel how it’s easy of use and everything is clear also some transaction with “one click” and your transaction process done. Which make citizen feel how the e-government website designs complex and its totally different between e-government website and other e-services.” INT18</i>
Speed of website: websites load and process quickly.	<i>“Quality of e-government service should be improved, by increasing the speed of the governmental website, an increase of the transaction process speed without spending a lot of time to make the transaction done. In each time I use the Ministry of Labor website to inquire about labor laws, find there is a load on the website and working very slowly, but there is no other option to get the information and forms needed an employee, which directly impact on my perspective about quality e-government service to make it low and prefer to don’t use it anymore until having high-speed governmental website.” INT7</i>	<i>“Other e-service doesn't need a long time to do the transaction and it is easy to use compared to e-government. For example: when I using e-shopping website such as Epay I am doing this transaction online with a minutes from my smart phone and in easy way to access because I have my account email and password but if I want to pay tax or bills I need to get access again and visit the website so the process take time.” INT9</i>

Table 4.4 Comparison of citizen perspectives about the quality of e-government services with other e-services.

4.4.3 Using offline government services

There is a need to understand the reason behind some citizens’ preference to use offline government services rather than e-government services, despite the fact that the e-government services should save their time and effort, and be more suitable for their ability rather than visiting the governmental department and waiting in long queues to process the governmental transactions.

Most of the participants agreed that the offline governmental transactions were still the main way to process governmental transactions; some participants tried to explain the reason behind the use of offline services rather than online. The first reason provided by participants is limited awareness of how to use e-government services and the benefits of using them, such as INT 12 who tried to explain the gap between the citizens’ awareness about the other e-services and e-government services.

“Most of the e-banking transactions are online, and citizens use them because they aware of how to use it and what the benefit is from using it online rather than offline. Also it is easy and direct to use and if the citizen doesn't have a good knowledge about how to use the Internet they still can make the e-banking transaction, but e-government service requires having proper knowledge about the Internet to use e-government services so the citizens prefer to use offline services rather than online. So the awareness of the benefits of using e-government services and how it should be saving our time and

effort and, at the same time, awareness about how to use e-government service (navigation and integration) and making it easy for people because if Facebook, for example, is hard to us and complex you will not find the big number of users around the world even in developing countries.”

INT 12

This participant tried to provide a reason for using offline governmental services rather than e-government, and said it is the lack of awareness about how to use it and what the benefits of use are that makes citizens use offline services rather than e-government services.

This study contacted more than 60 citizens for interviews, to find that only 20 participants used e-government services and had awareness about it, and it was agreed amongst the participants that there is a need to spread awareness about e-government services to increase the use of the services and improve citizen satisfaction.

The other reason behind the use of offline services rather than online services is the quality of e-government services; many participants argued that the quality of e-government services is very low and there is a need to improve the quality of them to make citizens use them.

There are many issues with the quality of e-government services in Jordan, and these issues are very important, and make the citizens unable to use them to make governmental transactions. One such issue is usability – most participants agreed that usability is an issue with the e-government services. If a citizen is unable to use e-government services they will not use them again because the main purpose of e-government services is to satisfy citizens' needs.

At the same time there are some citizens that prefer to do governmental money transactions offline because they do not trust paying money, such as their bills or tax, online because they worry about theft or misuse of their financial information. They prefer to go to governmental departments and make the transaction offline.

In summary there are three main reasons behind the use of offline governmental transactions rather than e-government, which are: the awareness about how to use e-government services and the benefits of use (the participants provide some suggestions for increasing awareness) (See Section 5.3), the quality of e-government services, and trust (see Section 4.5 for discussion on trust).

When participants were asked about their use of offline government services there were two main answers; first was that all of the participants still use offline governmental services, and that many participants argued that offline government services were still the main way of communicating between citizens and government.

4.4.4 Suggestions to improve the quality e-government services

When participants were asked about the quality of e-government from their viewpoint and the impact of other e-service from their perspective, they provided a range of suggestions to improve the quality of e-government services based on their experience with e-government and other e-services.

Firstly, most participants argued there is a need to for the designers of e-government websites to better understand citizen needs and wants, so as to provide citizens with helpful services. Many participants argued there is a gap between what citizens need from e-government and what e-government has provided, and that to satisfy citizens the e-government should examine citizens' needs to bridge the gap and support citizens. At the same time, it should take a lesson from other e-services in how they satisfy citizen needs and wants, and try to help citizens in easy and helpful ways, as expressed by INT 12.

“Through understand citizen need and want the e-government will be able to help us and based on our need and want will provide a suitable service to citizen, because there is a significant need to improve the e-government service through increase the e-government use among citizen and make citizen satisfy with the service” INT 12

The participant here explained the main step of improving e-government is based on understanding citizen needs, because if e-government meets citizen needs it will increase the e-government use among citizen and improve satisfaction.

Along these lines, to improve e-government services participants suggested that the different e-government services should consider the citizens' feedback carefully; to know how e-government could improve and how it could satisfy citizens based on their feedback about the service, because as noted before the citizens are the main audience of e-government.

Most of the participants argued that it is necessary for designers of e-government to listen to citizen feedback and try to understand their feedback to make the e-government suitable for their needs and wants and to improve e-government in the right way such as INT 11.

“Through listen to citizen feedback about the websites will give the e-government ideas about the way of needed improvement for e-government services and to know how make the services close to the citizen need and want, also e-government should know how to get citizen feedback and know if citizen satisfy with service or not.” INT 11

The participant here argued that e-government should consider citizen feedback carefully to know how it could make citizens satisfied with its services, and also to know what citizens expect from e-government to process their governmental transaction. If the e-government does not consider the citizen feedback the gap between citizen need and e-government provide will increase, which directly impact on citizen use of e-government.

Citizens explained that the main motivation to using e-government services should be to save time, effort, and money to use e-government instead of (or in conjunction with) using government services offline. However, as noted in the analysis, this motive was not always met.

Many participants argued the main motivation of use e-government service by citizens rather than offline government service, was that e-government saves citizens time, effort and money, which means that when e-government built their service it should regard e-government as saving citizen time, effort and money more that use offline government services. INT 1 stated:

“To improve e-government service and satisfy citizen need and want, e-government need to know how could save citizen time and effort to make them satisfy with the services and know how could make citizen use e-government service rather than offline government service, because if the e-government doesn't provide service save their time and effort what the reason of use e-government service.”

INT 1

As this participant explained, the use of e-government should be to save citizens' time and efforts to make them use e-government rather than offline service and to make citizens satisfied with the service, because based on citizens view if e-government does not save citizen time and effort it will not be a reason for use e-government services.

Many participants argued that e-government should take a lesson from other e-services to know how it could improve perceptions of safety to make citizen feel safe while use e-government service also make citizen' trust use it such as INT 14.

“To improve e-government service and satisfying our need and want the e-government should cup with technology and other e-service to know how could provide citizen with secure and safe services and make citizen does not have any doubt of miss use their information and data.” INT 14

As noted in this quote, participants said e-government should take a lesson from other e-services technology to know how they could provide citizens with a safe and secure service without any doubt of misuse of their information to make citizen satisfied with e-government and increase the use of e-government in Jordan.

One way to improve perceptions over security is to make citizen able to have a single e-government ID and password to make the access of e-government service and information easy and save citizens time and effort. Two participants argued that they have difficulty of access for e-government service which make the participant unable to process their governmental transaction such as INT 8.

“To improve the quality of e-government service there is a necessary need to improve the access of e-government service and information and make the citizen have an e-government ID to increase the privacy and make access to e-government easily and help citizen to process their governmental transaction with save their time and effort.” INT 8

The participant here explained the importance of making citizens have e-government ID to access for governmental service easily without spending lots of time and effort each time use e-government. Which mean the e-government should help citizen to create an e-government account to help citizen access the e-government service and information.

The participants suggested that there is a need to spread awareness about the benefits of using government services and explain to citizens how use e-government to save their time and effort, and how e-government make governmental processes easier than offline services.

Most participants agreed that spreading awareness about the benefits of e-government to encourage citizen to use it rather than offline services, and explain how use e-government services make citizen satisfy and save their time and effort such as INT 6.

“To improve quality of e-government services, firstly should spread awareness about the benefits of use-government rather than offline governmental services, because if citizen doesn't recognise the benefits of use e-government services, how will encourages to use it.” INT 6

As participant explained there is a significant need to make citizen know the benefits of use e-government services to encourage them to use it, otherwise the citizen will not have a significant motivation for use e-government rather than offline government services.

At the same time, participants suggested that at the level of citizens there is a need to build better skills to use e-government to absorb benefits from it. As a step towards this, e-government services should provide citizens with a sensible explanation about the way of use e-government services, and also provide an introduction for each governmental website and provide what the information and services available on the website.

Many participants argued about the significant of know how could use e-government service and know what each governmental website provides to make the processing of governmental transaction possible and easier rather than trying to get the benefit need and waste citizen time and effort such as INT 11.

“Improved quality of e-government should be through listen to citizen feedback about the websites and be close to the citizen through spread the awareness about the e-government service. The government should explain what the e-government, what is the difference between online and offline governmental transaction and teach how to use it to make citizen understand e-governance and make it easier to the citizen.” INT 11

The participant here tried to explain the significance of making citizens understand the way of using e-government and understand the difference between use of e-government and use of offline governmental service to encourage citizens to use e-government services rather than offline government services.

Many participants argued that to improve the quality of e-government services, the e-government should understand the citizen possibilities of use online service. To make the services suitable for their ability otherwise the citizen will find the use of e-government hard to use and not suitable for their ability and possibility such as INT 1.

“To improve the quality of e-government service the e-government should improve the services and make it suitable for citizen knowledge and ability of use Internet, because I feel e-government more suitable for high degree people and young people and doesn’t suitable for old people or people have limited knowledge about the technology and Internet.” INT 1

The quality of e-government in Jordan needs to improve to be suitable for all citizen. Through regards their ability to use technology and their knowledge. Because, as the participant argued, e-government is not suitable for their ability of use technology and their knowledge. Which make the participant dissatisfied with the quality of e-government services also prefer use offline governmental services.

To improve the quality of e-government service there is need to provide governmental service in line with new technology with other e-service, such as ability of use e-government over smartphones to make the process of e-government services easily for citizen also makes the e-government service easily available any time citizen need.

The quality of e-government need to improve the responsiveness of services through increase the speed of e-government responses thorough speed of process the governmental transaction also responses as citizen need and expect, if the e-government slowly process the governmental transaction will directly impact in citizen perspective about the quality of e-government, also if the response of governmental website not as citizen need and expect will make the citizen un satisfy about the service.

Many participants have problems with the way of response for e-government service in two way some of the speed of responsiveness for the governmental transaction and the response as participant need and expect such as INT 20.

“To improve the quality of e-government service there is a need to improve the way of responses for citizen though speed of process the governmental transaction online, such as when I pay the bills online to process the transaction the website take time to process the transaction also you need to insert a lots of information which make the process take time also.” INT 20

As noted in the quote above use of e-government should not need lots of time to process the transaction or to fill the needed information to make the transaction done, in other way e-government should response as citizen expect and need to make the citizen have a good perspective about the quality of e-government services.

4.5 The relation between quality of service with citizen' trust

This section discusses the impact of quality of e-government service on citizen' trust. It begins by examining trust from citizen viewpoint to know the way of citizen define the trust of use e-government. It then examines the impact of quality e-government service on their trust from citizen perspective. Having done so, it outlines citizen suggestions to improve citizen' trust of e-government.

4.5.1 Trust and e-government service from citizen perspective

Trust in e-government service lead citizens to engage in e-government based on Alsaghier et al., (2011). The following sections examine the participant viewpoint about their trust of e-government to understand what the main factors of trust trusting the use e-government service.

All participants referred to trust in the service in terms of being assured that when using e-government to process transactions their person information such as name, date of birth, ID number, bank account details would be secure. For instance, INT 5 explained:

“Trust of use e-government service mean citizen give name and phone number or any type of personal data with high expectation the e-government website will process the governmental transaction securely.” INT 5

As noted, when citizens provide personal information to the governmental website, there is a high expectation that e-government service will satisfy their needs and wants.

Trust in the quality of service

When citizens spend their time and effort to use e-government service they have high expectation that e-government will satisfy their needs and wants. In other words, they trust that the service will meet their expectations. All of the participants when asked to define trust included spending time and effort to process their governmental transaction such as INT 14.

“Definition of trust e-government mean spend time and effort and give personal information with the high expectation of making their transaction.” INT 14

The participant here tries to define e-government service as spending their time and effort to gain a governmental transaction. In other words, for citizens, trusting that the use of the e-government system will result in effective use of time is important.

When citizens try to use e-government service, they have high expectations that e-government will satisfy their need and want and provide them a high-quality service. Four participants had high expectation about the e-government service as important factor in their definition, such as INT 11.

“Trust in e-government mean when citizen provides personal information and spends time and effort to make the governmental transactional with high expectation that government will satisfy their need and want with very high-quality service.” INT 11

Based on that the participant provide a definition of trust e-government as citizen spend their time and effort and provide their personal information with high expectation that e-government service will satisfy their need and want with high quality service.

The following section will explore the citizens' perspective about the impact of quality e-government service on citizen' trust from participant viewpoint, to understand the relationship between quality of e-government and citizen' trust e-government.

4.5.2 Impact of quality e-government service on trust (direct impact or not impact)

Participants were asked about the impact of quality e-government service on trust. Many participants argued that quality of e-government service directly impacts on citizen' trust, while other others agreed in part they believed that there were more significant factors. Only one participant agreed that quality of e-government service does not impact on citizen' trust.

When e-government services provides high quality service for citizens with high privacy and security also with accurate information, it will make citizens trust and use e-government service. For instance, INT 11 suggested that when the e-government service provide citizen useful, helpful e-government service with high secure services citizen will trust and use e-government services.

“Quality of e-government service directly effect on citizen' trust. when e-government provide citizen useful, helpful services and information in the easy and fast way which better than offline government service, the citizen will trust use it and adopted too in the same time secure and safe without any doubt if there will be miss use of citizen information.” INT 11

Some participants explained that frequent use of e-government will make citizens trust and adopt its use, such as INT 6.

“Quality of e-government directly impact on citizen' trust. I am rarely e-government user because the Jordanian Electric Power Company website provides inaccurate information which makes me rarely use it and doesn't trust use it again. So when e-government provide high quality service will make citizen frequently use it then trust.” INT 6

Whereas two participants argued that quality e-government service does not directly affect citizens' trust because security and privacy are more important. INT 12 argued that security and privacy are more important because if the citizens have doubt around misuse of their information, she will not use it even if the website are helpful, useful, available etc.

“The quality of e-government service isn't the main factor of citizen' trust because there are more significant factor such as privacy and security. I used Ministry of Justice website to get my no criminal record and I provide my personal for the governmental website because I trust that will not be any miss use of my personal information otherwise and privacy are more important than quality service to make citizen' trust use it.” INT12

While one participant argued that quality of service does not impact citizen' trust, because from participant viewpoint they do not trust using e-government service to make money transaction online regardless of quality service because the participant does not usual with online money transaction such as INT 15.

“The quality e-government service isn't impact on citizen' trust because some citizen don't prefer to provide their financial data online also doesn't trust to make financial transaction online they prefer

to use offline governmental rather than online because its more accurate and you could get receipt.”

INT 15

So, there are three different viewpoints about the impact of quality e-government service on citizen' trust; Firstly, most participants agreed that quality of services directly impact on citizens' trust, because when e-government service provide a high quality service will make citizen frequently use it then trust it. Secondly, to a lesser extent, participants argued that quality e-government service does not directly impact on citizens' trust because there are other more significant factors such as privacy and security. Thirdly, only one participant said that quality of e-government service does not impact on their trust because the participant does not trust in making financial governmental transaction online; they prefer to use offline governmental services.

4.5.3 Suggestions to improve citizen' trust

Throughout the interviews, the participants provided many suggestions to improve the citizens' trust of use e-government service based on improving the quality of e-government. Based on that, there are many factors that could improve to increase the citizen' trust such as privacy, accurate of information, quantity information, security and completeness. These are described below and summarised in Table 4.5

4.5.3.1 Privacy

Many participants argued that privacy of e-government services is the most significant factor impacting citizen' trust, which means that citizens should be reassured that personal information is collected, processed and protected without any doubt of misuse of their information such as INT 7.

“The e-government services should be provide with high privacy without any doubt among user that will be misuse of their information to make citizen' trust e-government service otherwise the citizen wont trust use e-government service because the information provide for e-government are valuable and should be secure with any stage of make the governmental transaction.” INT7

In the above quote, the participant tries to explain the significance of making citizens trust e-government service through providing a high privacy service without any doubt of misuse of data at any stage of the transaction. This makes the participant trust use e-government service rather than offline governmental transaction.

4.5.3.2 Accurate information

The information provided over the governmental website should be accurate without having out-of-date information about what the e-government website provides and about the ways of making the governmental transaction online. When participants found there is something wrong with the governmental website information it makes the participant unsatisfied with the governmental service such as INT 3.

“When I try to use e-government service, there is inaccurate information provided over the website about my post also the information provided unclear, which make me don't trust the information provided over the website, so I am not satisfied because the website provides non-accurate information about my post.” INT 3

In the example quote above, the participant explained the importance of having accurate information over the governmental website because this website provides the services for citizens from government, which should be accurate and clear.

4.4.3.3 Quantity information

Some participants argued that to make citizen' trust e-government service, the governmental website should provide the information quantity as needed not more to make citizen feel the information un clear and not less than needed to make citizen found the information needed without any missing such as INT 12.

"E-government service should provide citizen all information needed about the benefit of using e-government website or what governmental website provide and how citizen could process the governmental transaction online clearly without any missing or without any lots of un needed information to make citizen' trust that governmental website are provide needed information to help citizen make the governmental transaction." INT 12

As the participant noted above, there is a need to have a suitable amount of information over the governmental website to help citizens trust that governmental websites provide a needed information with suitable citizen need no less or more.

4.5.3.4 Service completeness

Most participants argued that the governmental website should allow citizens to complete the transaction or provide information needed to make citizens trust using e-governmental service rather than offline governmental transactions. INT 10 stated.

"E-government service does not satisfy my need to add my experience on my CV for two main problems first one I couldn't even make my transaction process online and there is a limited information about how I could process it which make me doesn't trust use any governmental website." INT 10

The participant tried to use e-government services to add some information to their CV but the participant could not because the limited of needed informational and the website could complete the governmental transaction which make the participant unable to process the governmental transaction and does not trust use e-government website.

Trust factor	Interviewee log
Privacy: assures that personal information is collected, processed, protected and destroyed legally and fairly.	<i>"The e-government services should be provide with high privacy without any doubt among user that will be misuse of their information to make citizen' trust e-government service otherwise the citizen wont trust use e-government service because the information provide for e-government are valuable and should be secure with any stage of make the governmental transaction"</i> INT 7
Accurate: information provide by e-government website are true and correct.	<i>"When I try to use e-government service, there is inaccurate information provided over the website about my post also the information provided unclear, which make me don't trust the information provided over the website, so I am not satisfied because the website provides non-accurate information about my post."</i> INT 3

Quantity: information quantity as it need not more or less.	<i>"E-government service should provide citizen all information needed about the benefit of using e-government website or what governmental website provide and how citizen could process the governmental transaction online clearly without any missing or without any lots of un needed information to make citizen' trust that governmental website are provide needed information to help citizen make the governmental transaction"</i> INT 12
Security: controls limit access to personal information and protect against its unauthorized use and acquisition"	<i>"As a citizen, it is very important to feel that my information all is secure from un wanted access and the government should controls limit access to personal information and protect against its unauthorized use and acquisition to trust provide our personal information online otherwise the citizen will not be able to provide their information for the governmental website."</i> INT 9
Completeness: citizen could complete the transaction or information needed.	<i>"E-government service does not satisfy my need to add my experience on my CV for two main problems first one I couldn't even make my transaction process online and there is a limited information about how I could process it which make me doesn't trust use any governmental website."</i> INT 10

Table 4.5 Citizens' suggestions for improving the trust of use e-government service in Jordan

4.6 Summary of the findings

This chapter began by discussing the use of e-government services in Jordan. It focused on participant's satisfaction, frequency of use and intention to use and the information on the website used by the interviewees.

It then focused on explaining the quality of e-government services in Jordan from participants' viewpoints. Many interviewees argued that the quality of e-government service in Jordan needs to improve. There is significant concerns and difficulties in e-government that make citizens' perspectives low and limited the use of e-government service.

Section 4.3 briefly discussed the information quality of e-government services such as (Information Accuracy, Information completeness, Information quantity). Following this, it discussed the citizens' perspectives on the service quality of e-government service such as (usability, auditability, availability) and the system quality of e-government services such as (helpfulness, speed website, accessibility).

Section 4.4 outlined the ways citizen expectations around quality of service are formed. It did this by focusing on three main elements. Firstly, it reflected on the participants' experiences with e-government services in Jordan. Secondly, it makes comparisons with the participants' experience with other online services such as e-shopping, e-banking. Thirdly, it makes comparisons with participants' experiences with offline government service. It also included the participants' suggestions to improve the quality of e-government service based on their experience with e-government and their experience with other online service, and also with offline governmental services.

The last Section 4.5 examined the impact of quality of e-government service on citizen' trust. It examined trust from citizens' viewpoints to learn the way citizens define the trust of using e-government. Then, it explained the impact of quality e-government service on citizen' trust from the participants' perspectives. It ended by providing the participant suggestions to improve citizen' trust of e-government.

CHAPTER 5 DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter discusses the major findings of the study with reference to the literature that the study draws upon and is related to. In particular it draws on the related concepts and theory as outline in Table 2.5. It is organized in as follows. In Section 5.2, the research questions are revisited to summarize the main findings. Section 5.3 provides recommendations to improve the quality of e-government service and trust in Jordan. In Section 5.4 the main contribution of the study are discussed. The limitations and conclusions of the study are discussed in Section 5.5. Section 5.6 concludes with a summary of the thesis.

5.2 Revisiting the research questions

In this section, the main findings related to the three research questions which guided this research are presented and discussed with reference to literature.

What is the citizens' perspective about the quality of e-government services?

Several dimensions have been identified to explain citizen perspectives about the quality e-government services. These include awareness (or the lack of it), perceived complexity, information quality, service quality and system quality.

As regards *awareness*, as noted by Al-Jamal and Abu-Shanab (2015) more than 90 services are offered electronically to Jordan citizens and businesses. The analysis of e-government websites used by the participants also showed that e-government service in Jordan provide citizens with a range of informational, interactional and transactional systems for different types of governmental services. Nevertheless, the use of e-government in Jordan by the study participants is patchy ranging from more than once a month to rarely (less than once in three months). This is consistent with Al-Yaseen, et al. (2015), who indicated that more than 85% of individuals had never logged in to an e-government website or had never obtained any information online. In addition to the low use of e-government, at the same time there is a problem of citizens using e-government service, which is related to the **perceived complexity** and quality of the service.

Based on the interviews, and within the limitations of the number of participants of this research, it seems that Jordanians tend to believe that using transactional e-government services is more complex than off-line interaction. Most users have either undergraduate or above educational level, which leads to the perception that the use of e-government services requires higher education levels and good experience or knowledge of using technology to get the benefit of e-government services. This implies that there is a need to make the e-government services more in line with citizens' technological skills and expectations (Abu-Shanab 2017; Zawaideh 2016). That is, there is a need to make the e-government service more suitable to citizen's knowledge, experience with Internet, and also with their age. This is in agreement with Parasuraman et al.'s (1988) work on the quality of service, whose SERVQUAL model identifies five dimensions of quality, of which one is the ability to perform the promised service dependably and accurately. It is important to make sure that citizens are able to make the transaction.

Citizens also expect **information, service and system quality from government** which are common features of service quality reported in the literature (Al-Nuaimi et al. 2013; Zeithaml 2002). In terms of information quality, like other e-government users elsewhere (Stvilia et al. 2007; Chen, Liu, and Zhou 2006), Jordanians expect e-government information to be accurate, complete and of the right

quantity. Poor information quality, in particular, out-of-date information and sometimes incorrect information on government websites is one of the factors that are driving citizens away from the use of e-government to perform transactions, and from their intention to use e-government services. It also influences their trust of e-government services (Alzahrani, Al-Karaghoul, and Weerakkody 2017). This is in line with Aikins and Krane's (2010) argument that information quality impacts citizen satisfaction and trust, and governments try to enable citizens and enterprises to access government services and information efficiently and effectively. When participants discuss the information completeness, some interviewees could not complete the transaction, or find the information needed because the e-government website was incomplete. This directly makes the participant dissatisfied because their transaction was not completed. This reinforces the findings of the need to improve the information quality of e-government as noted by many e-government researchers (Abu-Shanab 2017). Furthermore, the quantity of information on the e-government website did not meet the needs of citizens and often obfuscated the process. Limited information about transactions can result in citizens being unable to complete their governmental transactions online (Alenezi and Tarhini 2013).

Jordanian citizens appear to share the same perspectives about **service quality** as e-government users in Denmark and Australia (UN E-government, 2018). These perspectives include **usability, suitability and availability**. Usability is the main issue raised. Many participants said that the systems were difficult to navigate and information and choices were not always presented in a clear and concise way; they were ambiguous; and important items were not placed in easy-to-locate areas. Some participants also raised the concern that there is an issue with the **availability** of e-government service (e.g. a service may be undergoing development or maintenance), resulting in interviewees being dissatisfied with e-government service; other participants have an issue with the suitability of e-government service with their ability of use technology and their age. In comparison, in developed countries that have high rates of use of e-government service amongst citizens, the system quality of e-government service are rated as 'high', as is the availability and suitability of e-government service (Arias and Maçada 2018). For instance, a study of Australian e-government users found that they perceived it as being meeting their expectations (Arias and Maçada 2018), and similarly in Denmark (van Os 2011).

Citizens' perspective about the **system quality** of e-government services includes **website speed, helpfulness and accessibility**. These three issues have also been reported in the studies of (Alshehri et al. 2012; Chen et al. 2019). Participant perspectives about the system quality of e-government service show that speed of the website is important (and most noted the websites were slow). It was clear that there is significant need to improve the speed of the governmental website, because of its direct impact on the overall experience of e-government service (Alanezi, Kamil, and Basri 2010) and level of satisfaction (Papadomichelaki and Mentzas 2012).

Also having a **helpful** e-government website is an important factor of system quality in e-government services (see Section 4.3, and refer to (Gupta and Jana 2003; Hien 2014). To make the website 'helpful', it should take into account the citizens' needs and wants (Jinhua, Yong, and Peng 2010); also make the transaction in a regards their knowledge of use technology, time. At the same time it is important to spread awareness about the way to use e-government websites, to allow citizens to get benefits from e-government service (Al-Yaseen, Al-Soud, and Al-Jaghoub 2015). Also, **accessibility or ease of access to the e-government service** is an important factor of system quality e-government service (Kuzma 2010). To make the website easy to access, the participants suggested that e-government services need to provide a citizen an account (email, and password) to make access for the service easier than provide all the details each time it is used. These findings correspond with

many studies on the impact of providing quality e-government service (information, service and system) for citizens based on their expectation and their perspective (Carlson and O'Cass 2011; Qutaishat 2012).

How is citizen expectation of quality e-government service formed?

Participants formed their expectation of the quality of service in three ways. First, as noted in Chapter 4 and in Section 5.3.1, it is through direct experience with the e-government service – most participants identifying issue with quality of e-government and arguing that there is significant need for improvement. When citizens try to use e-government services and find many issues, this directly impacts on their expectation to make it low. At the same time, if citizens have successful experiences with e-government services, this will directly impact on their expectations positively and they will plan to use it in future. This is clearly in line with other studies, for example (Alshehri et al. 2012; Al-Haddad, Hyland, and Hubona 2011), however it emphasizes the role of their experience.

Secondly, citizens' expectation of quality is formed based of their experiences with other online services. Consistent with a small body of research on the use of online services in Jordan that shows "that most of Jordanian use other online such as social media, e-shopping, e-banking" (Abu Shanab Al-Yaseen, Al-Soud, and Al-Jaghoub), all study participants are frequent users of social media and other online services (e-banking, e-shopping). The comparative analysis of their use of services and e-government suggests that the use of other e-services (e-shopping, e-banking, social media) directly impacts on citizens' expectations of the quality of e-government services. Importantly, the study shows that the use of other online services raises citizens' expectations on the quality e-government service, due to the high quality of other e-services. Participants that used many types of online service reported high levels of satisfaction with these services, which in turn impact on how they perceived the quality of e-government. Overall, based on this analysis, it can be argued that the high quality of service from other e-services leads to a lower perspective about the quality of e-government service. As noted, this is because when citizens use other e-service they note that it is easy to use, intuitive and easy to use and leads to saving time and effort. On the other hand, when using an e-government website, participants noted how it was hard to use and often referred to instances where they were unable to make simple governmental transaction. As noted in the literature, many studies try to understand the spillover effect in different contexts, such as a study of mobile phones for work found that how they are used in the workplace and perceptions of use of mobile phones in the workplace is affected by how users used mobile phones in their everyday life (Karanasios and Allen 2014) and as another example of spillover online to offline sales (Yan, Zhao, and Liu 2017). This research attempted to study spillover effect in e-government context through understanding how the use of other online services spillover their expectations about the quality of e-government services.

Thirdly, expectation of quality was formed using offline government interaction. When participants were asked about their use of offline government services there were two main answers. First, all of the participants continue to use offline governmental services. The other answer was that many participants argued that offline government services are more accurate and secure than online, especially regarding money transactions such as paying bills or tax. As other researchers have found (for example Al-Yassen et al. 2015), offline governmental services are the main method of interaction between government and citizens in Jordan. Participants explained that there is a need to make e-government websites easier and more straightforward, through providing simple and understandable means to find information, and also direct and easy methods of making government transactions, to enable citizens to use these without any difficulties.

How does quality of e-government services impact on citizen' trust of e-government services?

Citizens' trust, leading to adoption and use of e-government systems, has two dimensions: trust in the government and trust in the Internet. Before trusting e-government initiatives, citizens must believe that government possesses the managerial and technical resources necessary to implement and secure these systems. For adopting e-government services, citizens must have the intention to 'engage in e-Government' which encompasses the intentions to receive and provide information through on-line channels(Warkentin et al. 2002). As noted in the literature, one of the main motivations of this research is to understand the impact on quality of e-government service on citizen' trust. This is based on the literature that identifies trust in e-government services as an important consideration for citizen satisfaction and adoption of e-government service (Colesca 2015; Tan, Benbasat, and Cenfetelli 2008).

The findings indicated three different viewpoints about the impact of quality e-government service on citizen' trust of e-government. First, most participants explained that quality of service directly impacts on citizen' trust, which means that when the quality of e-government service is high it will make citizens trust e-government. This is in agreement with many scholars in the e-government literature (Kassim and Asiah Abdullah 2010; Al-dweeri et al. 2017) who show how the quality of e-shopping service impacts on e-trust.

Second, to a lesser extent participants argued that quality of e-government services indirectly impact on citizen' trust. This is because it was considered that other factors more significantly impacted on citizen' trust, such as security and privacy. For instance, even if the quality of e-government service was high, the participant would not use e-government service because he did not trust do any money transaction online.

Third, for a few participants the quality of e-government service did not impact on citizen' trust because even if the quality of e-government service was high the participant would not use e-government service because they did not trust online systems in general to carry out any money transaction.

5.3 Recommendation for e-government providers

This study provides recommendations for government agencies, e-government developers and citizens to improve the quality of e-government service and to improve citizen' trust. These are outlined below.

Recommendation for government

To undertake this study, more than 60 citizens were contacted, but only 20 participants used e-government services. This shows that government needs to spread awareness about e-government services to increase the use of the services and improve citizen satisfaction.

At the same time there is a need to spread awareness about the benefits of the use of government services and how to use e-government services to make citizen aware of the benefits of using e-government, rather than offline government services. This involves explaining to citizens how using e-government can save their time and effort, and how e-government can make governmental transactional processes easier than using offline services. Government could develop specific strategies to encourage citizens to use e-government rather than offline services, to increase the e-government use, and make citizens satisfied with service.

This is supported by Carter (2016) who argued that the government should provide Jordanian citizens with a good explanation about the benefit of using e-government services and how that will be easier and more effective than using traditional government services.

Recommendation for e-government service developers

As many participants argued, there is a gap between what citizens need from e-government and what e-government provided. One way to address this gap is to address the concerns raised in this thesis. Importantly the thesis shows that e-government developers should improve the quality of service by matching the offerings and interactions from other online services (e.g. social media, online banking). In addition, developers should aim to deliver services that save citizens time, effort and money.

Improved access to e-government would involve providing citizens with an e-government ID as a key to all services to enable access to e-government services and information. In addition, information provided over the governmental website should be accurate without wrong information, and have clear instructions. Some participants argued that to make citizens trust e-government service, the governmental website should provide the needed quantity of information – not more – to make citizen feel the information is clear – and not less than needed to help citizen find the information needed without any information missing. Most participants argued that the governmental website should allow citizens to complete the transaction or information needed.

Recommendation for citizen

As a recommendation for citizens, there is a need to improve their skills of using ICT. One of the common themes was that there was a lack of ability to complete transactions. This is an area of improvement for citizens but also one that government can address through education and training. Along these lines, this study uncovered many citizen frustrations which can be used as a basis to improve services. This suggests that developers could build in feedback mechanisms to help refine and develop their services.

5.4 Contributions of the study

This research built on the research about the e-government service in Jordan (Majdalawi et al. 2015; Al-Yaseen, Al-Soud, and Al-Jaghoub 2015; Zawaideh 2016) and responded to calls in the literature of (Alzaharani, Venkatesh and Colesca, 2016) to undertake research in a developing country and study the role quality of e-government services as a significant factor on citizen's trust. The contributions of this research can be demonstrated by recapping the motivations that led to the investigation in the first place. One of the motivations for this research was the need for more specific investigation of e-government service, suggesting that its conceptualisation and measurement should be based on users' perceptions and context specific. Thus, this study investigated e-government service quality from Jordanian citizen's perspective. It provides a better understanding of citizen perspective about quality e-government service and citizen's trust in developing country. It also highlights how government agencies can respond to issues of quality e-government services and citizen's trust.

The other motivation of this study was the need to understand citizen expectation about e-service quality using qualitative research as most of e-government service quality research tends to be quantitative. Consequently, this research presented a qualitative analysis of e-government and adds to the evidence base of e-government in developing countries research elaborating reasons and mechanisms for enabling trust (or not) in e-government services.

The third motivation for the study was one notable area that is missing in the existing e-government body of knowledge – how citizens form their expectations of e-government service quality and the

association between perceptions of e-service quality and satisfaction and the decision to continually use e-government services. This study is the one of very few to examine how citizen expectation around quality of service of e-government is formed. It did so by focusing on three main elements. Firstly, it reflects on the participant experience with e-government services in Jordan. Secondly, it makes comparisons with the participants experience with other online services such as e-shopping, e-banking. Thirdly, it makes comparisons with participants experience with offline government services (Alawneh, Al-Refai, and Batiha 2013).

5.5 Limitations and future research

This study has reported insightful findings to explain the use of e-government service in Jordan. However, it has some limitations that should be considered for future research.

First, as a Masters research, the number of interviews was limited to 20 participants. However, the data collected provided insight into the research question about the citizens' perspective about the quality of service and trust. Future studies could extend this research with larger study samples.

Secondly, this study was limited to Jordan. There is a need to understand the citizens' perspective about the quality of e-government service and its impact on citizen' trust from developing country to answer the research question from different situation for deep understanding about the relationship between quality of service and trust.

Thirdly, this study included only the citizens' perspective in answer to the research question, which mean this study only explains the demanded perspective about the quality of service and trust without understanding the provider perspective (government). Therefore, future research could examine how providers of e-government services attempt to match the quality of service of other e-services.

Fourthly, comparing e-government service to hedonistic use of online services such as social media is limited because of the different purposes. Future research could compare the use of e-government with other online services specifically like banking or other business interactions.

Finally, this research examined issues related to quality of service and how expectations are formed. It made some links between these themes and trust. Future research could focus more specifically on trust by drawing on theories of trust.

5.6 Conclusion

Quality is an important determinant for long-term success in e-service in different domains (Zeithaml, Parasuraman, and Malhotra 2002) and in e-government is drawn to e-service quality due to its importance to citizens (Al-Nuaimi et al. 2013). The conceptualization and measurement of e-government service should be based on citizens' perceptions (Akter 2010).

As noted in this thesis there are still issues around trust and quality of e-government services (Abu-Shanab and Al-Azzam 2012). Trust is a universal factor influencing the adoption of e-government (Abu-Shanab 2014) and positively affects the intention to use (Weerakkody 2017) because it is important that citizen believe that their government will provide the practical managerial and technical resources that are required to implement and secure these online systems (Alzahrani, Al-Karaghoul, and Weerakkody 2017). Most literature on e-government has focused on examining and describing the experience of quality e-government service and the relationship between quality of e-government services and trust in European countries or other developed countries (Bélanger and Carter 2008). While there are a number of studies on the quality of e-government service focusing on

developed nations, studies on developing countries are rare (Choi et al. 2016). This motivates the need to examine these issues in a developing country context.

The major contribution of the research is that it provides a better understanding of citizens' perspective about quality e-government service in a developing country. It shows how the issue around quality of e-government services and citizen' trust are different in developing countries. Adding a new dimension to e-government research, it also provides insights into how citizens' expectations on the quality of e-government are formed by examining their use of other online services.

The study findings illuminate the quality e-government services from the users viewpoint. In particular, the findings point out areas where the quality of e-government service needs to improve. There are significant concerns and difficulties of using e-government caused by the limited use e-government service and participants having a low perspective about the quality of service. Moreover the findings help in understanding the factors affecting citizens' perspectives to measure the quality of e-government service success through comparison with other online services, such as social media e-shopping and e-banking service. The study also identifies issues around quality e-government service based on citizens' trust. The study provides suggestions to improve the quality of e-government service and trust based on the participants experience with e-government and other online services.

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Appendix 1 Interview Questions

E-government users (sample)

1. What age group do you belong to (20-25; 26-35; 36-45; 46-55; 56-65)?
2. How often do you use the e-government service?
3. What type of task do you complete online?
4. How satisfied were you with the service?
5. What does quality of service in terms of the e-government service mean to you?
6. What does “trust” in using the e-government services mean?
7. What is the effect of quality e-government services on your trust in e-government services?
8. How can the government improve the quality of e-government services?
9. What is the most important factor in citizens’ trust of e-government services?
10. How has the quality of service changed over time; and how has this changed your trust in the service?
11. Do you plan on using the e-government service website more in the future?
12. Do you still use any e-government services offline? If so, which ones?
13. What type of e-government services you use are informational or transactional?
14. What is the impact of using another type of ICT on your use of e-government service?
What another ICT you are using?
15. Are you preferred to use e-government service rather than traditional government service if no why?

Appendix 2 Invitation letter



Appendix4: Invitation Letter

INVITATION TO PARTICIPATE IN A RESEARCH PROJECT

College of Business

School of Business IT and Logistics

Project Title	Exploring the quality of e-government service from citizens perspectives
Chief Investigator/Senior Supervisor	Dr Stan Karanasios School of Business IT and Logistics RMIT University, Melbourne- Australia
Associate Investigator(s)/Associate Supervisor(s)	Professor Alemayehu Molla School of Business IT and Logistics RMIT University, Melbourne- Australia
Principal Research Student(s)	Wafa'a Dodeen School of business IT and Logistics RMIT University, Melbourne- Australia

Wafa'a Dodeen is a Master of business candidate at RMIT University. She is seeking participants for a research project "Exploring the quality of e-government service from citizens

perspectives”. Eligible participants will be asked to participate in a 30-45 minute interview with a researcher via telephone/Skype – whichever is convenient for the participant. During the interview, participants will be asked about their use of the e-government, the quality of service and trust in e-government services.

For this research, you may be eligible to participate if you are:

(1) a regular user of the e-government services (used it frequently over the last 2 years); (2) have used the e-government services in the past and have discarded using it;

This research project is being supervised by Dr Stan Karanasios and Professor Alemayehu Molla

at RMIT University and conducted by Wafa’a Dodeen, a candidate for Master of business university degree. The project has been approved by the RMIT College of Business Human Research Ethics Committee.

If you are interested in participating please contact Wafa’a Dodeen for more information.

Further details of the study are below.

Who is involved in this research project? Why is it being conducted?

This research project is being supervised by Dr Stan Karanasios and Professor Alemayehu Molla

at RMIT University and conducted by Wafa’a Dodeen, a candidate for Master of business university degree. The project has been approved by the RMIT College of Business Human Research Ethics Committee.

Why have you been approached?

You are invited to take part in this research project on ‘Exploring the quality of e-government service from citizens perspectives. Because you are (1)a regular user of the e-government services (used it frequently over the last 2 years); (2) have used the e-government services in the past and have discarded using it.

What is the project about? What are the questions being addressed?

The aim of this research is to understand the relationship between the quality of e-government services and trust and the use of e-government services. It will focus specifically on the case of Jordan.

More specifically the purpose is to find out how the government in Jordan is improving the quality of e-government services for its citizens and how this impacts on trust in using e-government services. It

also examines how citizens use and don't make use of e-government and their perspectives on how quality of service impacts on trust. The research will achieve this through interviews with different types of users/non-users of an online government service. The results of this research will be used by the researcher, Wafa'a Dodeen to obtain a Master of business degree.

If I agree to participate, what will I be required to do?

If you decide to take part in the research project, we will provide the participant with the interview questions ahead of time; this will determine if you are eligible to take part. Completing the interview will take approximately 30-45 minutes. With your permission the interview will be recorded for transcription purpose only. All the information and data will remain anonymous at all time and at all stages of the research. The interview will be arranged at a *mutually convenient* time.

What are the possible risks or disadvantages?

There are no identified risks apart from the inconvenience to you by taking time out of your day. You may feel that some of the questions we ask are stressful or upsetting. If you do not wish to answer a question, you may skip it and go to the next question, or you may stop immediately. If you are unduly concerned about your responses to any of the interview items or if you find participation in the project distressing, you should contact Dr Karanasios using the contact details provided as soon as is convenient. Dr Karanasios will discuss your concerns with you confidentially and suggest appropriate follow-up if necessary.

What are the benefits associated with participation?

We cannot guarantee or promise that you will receive any benefits from this research; however, you may appreciate contributing to knowledge.

What will happen to the information I provide?

Any information obtained in connection with this research project that can identify will remain confidential. Only the research team will access the data. Any publication of findings from the study will ensure you remain anonymous through use of code names and careful de-identification of all data.

These publications are an Appropriate Durable Record (ADR) or thesis in the RMIT Repository. These are publicly accessible through an online library of research papers. The research project will be completed in 2018. The interview will be recorded and the recording will only be used for transcription purposes. All the information and data will remain anonymous at all time and at all stages of the research.

During the study period, the documents will be stored in a secured lockable location at RMIT University (city campus). All data in computer files will be password protected. After completion of the study, files will be stored in a secured lockable location at RMIT University (city campus) and will be destroyed after five years.

Any information that you provide can be disclosed only if (1) it is to protect you or others from harm, (2) is about court order being produced, (3) you provide the researchers with written permission. Any information obtained for the purpose of this research project and for the future research described that can identify you will be treated as confidential and securely stored.

What are my rights as a participant?

- The right to withdraw from participation at any time
- The right to request that any recording cease
- The right to have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for the participant
- The right to be de-identified in any photographs intended for public publication, before the point of publication
- The right to have any questions answered at any time.

Whom should I contact if I have any questions?

If you have any questions about this project or your participation then please do not hesitate to contact Dr Stan Karanasios or Prof Alemayehu Molla

What other issues should I be aware of before deciding whether to participate?

There are no other issues than those described in ‘What are the possible risks or disadvantages?’ above.

Yours sincerely

.....

Dr Stan Karanasios
Chief Investigator

.....

Prof Alemayehu Molla
Associate Investigator

.....

Wafa’a Dodeen
Principal Research Student(s)

All researchers must sign the information sheet, with his/her qualification/s listed below each name.

If you have any complaints about your participation in this project please see the complaints

Appendix 3 Prescribed Consent Form



INVITATION TO PARTICIPATE IN A RESEARCH PROJECT

PARTICIPANT INFORMATION

Project Title: Exploring the quality of e-government service from citizens perspectives
Investigators:

Wafaa Dodeen Master of business candidate, school of Business IT& Logistics, RMIT University, Melbourne, Australia, RMIT .

Dr Stan karanasios , 2008, Doctorate of Business Information Systems, Victoria University, School of Management and Information Systems, Melbourne, Australia.

Dear Participant,

You are invited to participate in a research project being conducted by RMIT University (Exploring citizen' trust towards e-government and the role of service quality: a study of users and providers). Please read this sheet carefully and be confident that you understand its contents before deciding whether to participate. If you have any questions about the project, please ask one of the investigators.

This research on the Exploring citizen' trust towards e-government and the role of service quality: a study of users and providers is being conducted by Miss Wafaa Dodeen, as a part of her Master at Business IT& logistics, RMIT University. Associate supervisor Professor Mohini Singh is the senior supervisor and Dr Stan Karnasios is the second supervisor for this project. This research has been approved by RMIT human Research Ethic Committee.

Research Aims

This research aims to explore the impact of improves the quality of e-government services on citizen' trust in Jordan from the citizen perspective. More specifically the purpose is to find out how the government in Jordan is improving the quality of e-government services to get citizen' trust in using e-government services, and how citizen wants to improve e-government services and trust in using e-government services. This research will seek to explore the impact of quality of e-government services on citizen' trust in developing country from two perspective government and citizen.

Interviews with e-government regular users will be undertaken.

Your Involvement

You have been chosen as a suitable community /catalyst participant for this research. If you agree to participate, you will require to:

The interviews session lasts approximately 30-50 minutes. Will begin with the researcher introducing the general research framework and inviting the participant to elaborate on two topics:

How does the quality of e-government services influence on citizen' trust of e-government services?

Citizen perspective

Possible Risk /Disadvantages

The only disadvantage is a loss of time but your participation will make a valuable contribution to this research. If you are unduly concerned about your responses to any of the questionnaire items or if you find participation in the project distressing, you should contact any one of the above investigators as soon as convenient. Will discuss your concerns with you confidentially and suggest appropriate follow-up, if necessary. If you wish to make a complaint about your participation in this research please see the complaint box below and please follow the complaints procedure.

The benefits associated with participation

No

Use of information Provided

Confidentiality and privacy will be strictly maintained during all stages of the research. No information you provide will be directly passed on to your organization. Only codes or numbers will be used to represent participants and their organizations, which will be made public forms of thesis and papers published in journals or conferences. Any information that you provide can be disclosed only if (1) it is protect you or others from harms, (2) a court order is produced, or (3) you provide the researchers with written permission. All electronic data will be stored on password secured university network systems. Hard copy will be archived in the locked filing cabinet and locked office at school of business IT & logistics at RMIT. The research data will kept securely AT RMIT for five years after publication, before being destroyed. Please note that due to the nature of data collection we will be requesting written informed consent form you.

My rights as a participant

- The right to withdraw from participation at any time
- The right to request that any recording cease

- The right to have any unprocessed data withdrawn and destroyed, provided it can be reliably identified, and provided that so doing does not increase the risk for the participant.
- The right to be de-identified in any photographs intended for public publication, before the point of publication
- The right to have any questions answered at any time.

If you have any question or enquire regarding this project or your participation you can contact

Dr Stan karanasios RMIT

Yours sincerely,

Wafaa Dodeen

Master of business candidate,

RMIT University

If you have any complaints about your participation in this project please see the complaints procedure at [Complaints with respect to participation in research at RMIT](http://www.rmit.edu.au/research/human-research-ethics) [ctrl + click to follow]/ <http://www.rmit.edu.au/research/human-research-ethics>

CONSENT TEMPLATE

1. I have had the project explained to me, and I have read the information sheet
2. I agree to participate in the research project as described
3. I agree:
The following provide some common examples, but should be modified to suit:
to undertake the tests or procedures outlined above
to be interviewed and/or complete a questionnaire
that my voice will be audio recorded
that my image will be taken (*Note: If you are using photographic images, further points need to be covered in the consent form– see under Supporting information on the Applying for human research ethics approval page*)
4. I acknowledge that:
 - (a) I understand that my participation is voluntary and that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied (unless follow-up is needed for safety).
 - (b) The project is for the purpose of research. It may not be of direct benefit to me.
 - (c) The privacy of the personal information I provide will be safeguarded and only disclosed where I have consented to the disclosure or as required by law.
 - (d) The security of the research data will be protected during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided to (researcher to specify). Any information which will identify me will not be used.

Participant's Consent

Participant: _____ Date: _____
(Signature)

Participants should be given a photocopy of this PICF after it has been signed.

